

## Structural Biology Program Publications 2002-present

### 2002 (39)

1. Adeagbo, A.S., Joshua, K.G., Prough, R.A., **Pierce, W.M.**, Awe, S.O. and Falkner, K.C. (2002) Endothelium-derived hyperpolarizing factor mediated vasodilation during DOCA-salt induced hypertension. *Hypertension*, **40**, 403-403.
2. Ahmed, M.N., Yamany, S.M., Mohamed, N., **Farag, A.A.** and Moriarty, T. (2002) A modified fuzzy C-means algorithm for bias field estimation and segmentation of MRI data. *Ieee Transactions on Medical Imaging*, **21**, 193-199.
3. Arthur, J.M., Thongboonkerd, V., Scherzer, J.A., Cai, J., **Pierce, W.M.** and Klein, J.B. (2002) Differential expression of proteins in renal cortex and medulla: A proteomic approach. *Kidney International*, **62**, 1314-1321.
4. Byrdwell, W.C., Sato, H., Schwarz, A.K., Borchman, D., **Yappert, M.C.** and Tang, D.X. (2002) P-31 NMR quantification and monophasic solvent purification of human and bovine lens phospholipids. *Lipids*, **37**, 1087-1092.
5. Castegna, A., Aksenov, M., Aksenova, M., Thongboonkerd, V., Klein, J.B., **Pierce, W.M.**, Booze, R., Markesbery, W.R. and Butterfield, D.A. (2002) Proteomic identification of oxidatively modified proteins in Alzheimer's disease brain. Part I: Creatine kinase bb, glutamine synthase, and ubiquitin carboxy-terminal hydrolase L-1. *Free Radical Biology and Medicine*, **33**, 562-571.
6. Castegna, A., Aksenov, M., Thongboonkerd, V., Klein, J.B., **Pierce, W.M.**, Booze, R., Markesbery, W.R. and Butterfield, D.A. (2002) Proteomic identification of oxidatively modified proteins in Alzheimer's disease brain. Part II: dihydropyrimidinase-related protein 2, alpha-enolase and heat shock cognate 71. *Journal of Neurochemistry*, **82**, 1524-1532.
7. Chekmenev, E.Y., Xu, R.Z., Mashuta, M.S. and **Wittebort, R.J.** (2002) Glycyl C alpha chemical shielding in tripeptides: Measurement by solid-state NMR and correlation with X-ray structure and theory. *Journal of the American Chemical Society*, **124**, 11894-11899.
8. Cleary, D.B., Trumbo, T.A. and **Maurer, M.C.** (2002) Protease-activated receptor 4-like peptides bind to thrombin through an optimized interaction with the enzyme active site surface. *Archives of Biochemistry and Biophysics*, **403**, 179-188.
9. Cui, G.M., **Dean, W.L.** and Delamere, N.A. (2002) The influence of cycloheximide on Na,K-ATPase activity in cultured human lens epithelial cells. *Investigative Ophthalmology & Visual Science*, **43**, 2714-2720.
10. DuPre, D.B. and **Yappert, M.C.** (2002) Cooperative hydrogen- and pi H-bonded interactions involving water and the ethylenic double bond. *Journal of Physical Chemistry A*, **106**, 567-574.
11. Feng, W., Cai, H., **Pierce, W.M.** and Song, Z.H. (2002) Expression of CB2 cannabinoid

receptor in *Pichia pastoris*. *Protein Expression and Purification*, **26**, 496-505.

12. Li, L., Tang, X.P., Taylor, K.G., Dupre, D.B. and **Yappert, M.C.** (2002) Conformational characterization of ceramides by nuclear magnetic resonance spectroscopy. *Biophysical Journal*, **82**, 2067-2080.

13. Lominadze, D. and **Dean, W.L.** (2002) Involvement of fibrinogen specific binding in erythrocyte aggregation. *Febs Letters*, **517**, 41-44.

14. Lominadze, D., Schuschke, D.A., Joshua, I.G. and **Dean, W.L.** (2002) Increased ability of erythrocytes to aggregate in spontaneously hypertensive rats. *Clinical and Experimental Hypertension*, **24**, 397-406.

**15. Luzzio, F.A.** and Duveau, D.Y. (2002) Enzymatic resolution of the 1,3,3-trimethyl-2-oxabicyclo[2.2.2]octane (1,8-cineole) system. *Tetrahedron-Asymmetry*, **13**, 1173-1180.

16. Magnuson, E.C., Koehler, J., Lamm, G. and **Pack, G.R.** (2002) Mg(H<sub>2</sub>O)<sub>6</sub>(<sup>2+</sup>)-π (cytosine) interactions in a DNA dodecamer. *International Journal of Quantum Chemistry*, **88**, 236-243.

17. Marinescu, A., Cleary, D.B., Littlefield, T.R. and **Maurer, M.C.** (2002) Structural features associated with the binding of glutamine-containing peptides to Factor XIII. *Archives of Biochemistry and Biophysics*, **406**, 9-20.

**18. Maurer, M.C.**, Cleary, D.B. and Littlefield, T.R. (2002) Exploring sites of interaction between Factor XIII and glutamine-containing peptides. *Biophysical Journal*, **82**, 336A-337A.

19. Ng, S.S.W., Kruger, E.A., **Luzzio, F.A.**, Eger, K., Guetschow, M., Hauschildt, S., Hecker, T., Teubert, U., Weiss, M. and Figg, W.D. (2002) In vitro antiangiogenic activity of thalidomide analogues. *European Journal of Cancer*, **38**, S82-S82.

20. Petrov, A.S., Lamm, G. and **Pack, G.R.** (2002) Water-mediated magnesium-guanine interactions. *Journal of Physical Chemistry B*, **106**, 3294-3300.

21. Pometun, M.S., Gundusharma, U.M., Richardson, J.F. and **Wittebort, R.J.** (2002) Solid-state NMR and calorimetry of structural waters in helical peptides. *Journal of the American Chemical Society*, **124**, 2345-2351.

22. Powell, D.W., **Dean, W.L.**, Rane, M.J. and McLeish, K.R. (2002) MAPK-activated protein kinase-2 phosphorylation of 14-3-3 zeta regulates dimerization. *Journal of the American Society of Nephrology*, **13**, 500A-501A.

23. Rujoi, M., Borchman, D., DuPre, D.B. and **Yappert, M.C.** (2002) Interactions of Ca<sup>2+</sup> with sphingomyelin and dihydrosphingomyelin. *Biophysical Journal*, **82**, 3096-3104.

24. Shekar, S.C., Ramamoorthy, A. and **Wittebort, R.J.** (2002) Determination of the chemical shielding tensor orientation from two or one of the three conventional rotations of a single crystal.

*Journal of Magnetic Resonance*, **155**, 257-262.

25. Smith, R.J., Arnaud, P., Konfortova, G., **Dean, W.L.**, Beechey, C.V. and Kelsey, G. (2002) The mouse *Zac1* locus: basis for imprinting and comparison with human *ZAC*. *Gene*, **292**, 101-112.

26. Thongboonkerd, V., Gozal, E., Sachleben, L.R., Arthur, J.M., **Pierce, W.M.**, Cai, J., Chao, J., Bader, M., Pesquero, J.B., Gozal, D. *et al.* (2002) Proteomic analysis reveals alterations in the renal kallikrein pathway during hypoxia-induced hypertension. *Journal of Biological Chemistry*, **277**, 34708-34716.

27. Thongboonkerd, V., Luengpailin, J., Cao, J.K., **Pierce, W.M.**, Cai, J.A., Klein, J.B. and Doyle, R.J. (2002) Fluoride exposure attenuates expression of *Streptococcus pyogenes* virulence factors. *Journal of Biological Chemistry*, **277**, 42417-42417.

28. Thongboonkerd, V., McLeish, K.R., Epstein, P.N., **Pierce, W.M.** and Klein, J.B. (2002) Proteomic analysis of hypoinsulinemic diabetic nephropathy. *Journal of the American Society of Nephrology*, **13**, 120A-121A.

29. Trumbo, T.A. and **Maurer, M.C.** (2002) Thrombin hydrolysis of V29F and V34L mutants of factor XIII (28-41) reveals roles of the P-9 and P-4 positions in factor XIII activation. *Biochemistry*, **41**, 2859-2868.

30. Turner, B.T. and **Maurer, M.C.** (2002) Evaluating the roles of thrombin and calcium in the activation of coagulation factor XIII using H/D exchange and MALDI-TOF MS. *Biochemistry*, **41**, 7947-7954.

31. Vorobyov, I., **Yappert, M.C.** and DuPre, D.B. (2002) Energetic and topological analyses of cooperative sigma H- and pi H-bonding interactions. *Journal of Physical Chemistry A*, **106**, 10691-10699.

32. Vorobyov, I., **Yappert, M.C.** and DuPre, D.B. (2002) Hydrogen bonding in monomers and dimers of 2-aminoethanol. *Journal of Physical Chemistry A*, **106**, 668-679.

33. Yamany, S.M. and **Farag, A.A.** (2002) Surface signatures: An orientation independent free-form surface representation scheme for the purpose of objects registration and matching. *Ieee Transactions on Pattern Analysis and Machine Intelligence*, **24**, 1105-1120.

34. Dapic V, Bates PJ, **Trent JO**, Rodger A, Thomas SD, Miller DM. (2002) Antiproliferative activity of G-quartet-forming oligonucleotides with backbone and sugar modifications. *Biochemistry*. **41(11)**:3676-85.

35. Ren J, Qu X, **Trent JO\***, **Chaires JB**. (2002) Tiny telomere DNA. *Nucleic Acids Res.* **30(11)**:2307-15. This was featured on the front cover and also an article in C&E News about June 17 issue 2002.

36. Inge TH, Casson LK, Priebe W, **Trent JO**, Georgeson KE, Miller DM, Bates PJ. (2002) Importance of Sp1 consensus motifs in the MYCN promoter. *Surgery*. **132(2)**:232-238.

37. Mitchell TC, Thompson BS, **Trent JO**, Casella CR. (2002) A short domain within Bcl-3 is responsible for its lymphocyte survival activity. *Ann N Y Acad Sci*. **975**:132-47.

38. **Fan, T.W.-M.**, Teh, S., Hinton, D.E., and **Higashi, R.M.** (2002) "Selenium biotransformations into proteinaceous forms by foodweb organisms of selenium-laden drainage waters in California", *Aquatic Toxicology*, a special Se issue with Fan as a guest editor, **57**, 65-84

39. **Fan TWM**, Pruszkowski E, & Shuttleworth S. (2002) "Speciation of selenoproteins in Se-contaminated wildlife by gel electrophoresis and laser ablation-ICP-MS" *J Anal Atom Spectrom.* **17**,1621-1623

2003 (47)

1. **Cunningham, A.R.**, S.L. Cunningham, and B.W. Day (2003) Identification of structural components associated with cytostatic activity in MCF-7 but not in MDA-MB-231 cells. *Bioorganic and Medicinal Chemistry*, **11**: 5249-5258.

2. Pollack, N., **A.R. Cunningham**, and H.R. Rosenkranz (2003) Environmental persistence of chemicals and their carcinogenic risk to humans. *Mutation Research*, **528**: 81-91.

3. Rosenkranz, H.S. and **A.R. Cunningham** (2003) Environmental odors and health hazards. *Science of the Total Environment*, **313**: 15-24.

4. Rosenkranz, H.S. and **A.R. Cunningham** (2003) Environmental persistence of chemicals and their carcinogenic risk to humans. *Mutation Research*, **528**: 81-91.

5. Rosenkranz, H.R. and **A.R. Cunningham** (2003) A substructure-based SAR model for odor perception in humans relevant to health risk assessment. *SAR and QSAR in Environmental Research*, **14(3)**: 215-222.

6. Vanoirbeek, J.A.J., C. Mandervelt, **A.R. Cunningham**, P.H.M. Hoet, H.X. Hadewijch, H.M. Vanhooren, and B. Nemery (2003) Validity of methods to predict the respiratory sensitising potential of chemicals. A study with a piperidinyl chlorotriazine derivative that caused an outbreak of occupational asthma. *Toxicological Sciences*, **76**: 338-346.

7. **Arumugam S**, Van Doren SR. (2003) Global orientation of bound MMP-3 and N-TIMP-1 in solution via residual dipolar couplings. *Biochemistry*. **42(26)**:7950-8

8. **Arumugam S**, Gao G, Patton BL, Semenchenko V, Brew K, Van Doren SR. (2003) Increased backbone mobility in beta-barrel enhances entropy gain driving binding of N-TIMP-1 to MMP-3. *J Mol Biol.* **327(3)**:719-34.

9. Gyi, J.I., Gao, D., Conn, G.L., **Trent, J.O.**, Brown, T. & **Lane, A.N.** (2003) The solution structure of a DNA-RNA duplex containing 5-propynyl U and C; comparison with 5-Me modifications. *Nucl. Acids Res* **31**, 2683-2693.
10. Nair, M., McIntosh P.B., Frenkiel, T.A., Kelly, G., Taylor, I.A., Smerdon S.J., & **Lane A.N.** (2003) NMR Structure of the DNA-binding Domain of the Cell Cycle protein, Mbp1 from *Saccharomyces cerevisiae*. *Biochemistry*, **42** 1266 – 1273
11. **Fan, T. W-M. Lane, A.N. & Higashi, R.M.** (2003) In Vivo and In Vitro Metabolomic Analysis of Anaerobic Rice Coleoptiles Revealed Unexpected Pathways. *Russ. J. Plant Physiol.* **50**, 787-793
12. Virna Dapic, Vedra Abdomerovi, Rachel Marrington, Jemma Peberdy, Alison Rodger, **John O. Trent\***, and Paula J. Bates (2003). Biophysical And Biological Properties Of Quadruplex Oligodeoxyribonucleotides. *Nucleic Acids Res.* **31**(8):2097-107.
13. Feltzer RE, **Trent JO\***, **Gray RD.** (2003) Alkaline proteinase inhibitor of pseudomonas aeruginosa: A mutational and molecular dynamics study of the role of N-terminal residues in the inhibition of pseudomonas alkaline proteinase. *J Biol Chem.*; **278**(28):25952-7.
14. Singh S, Powell DW, Rane MJ, Millard TH, **Trent JO**, **Pierce WM**, Klein JB, Machesky LM, McLeish KR. (2003) Identification of the p16-Arc subunit of the Arp2/3 complex as a substrate of MAPK-activated protein kinase-2 by proteomic analysis. *J Biol Chem.*; **278**(38):36410-7
15. Fujii N, Oishi S, Hiramatsu K, Araki T, Ueda S, Tamamura H, Otaka A, Kusano S, Terakubo S, Nakashima H, Broach JA, **Trent JO**, Wang ZX, Peiper SC. (2003) Molecular-Size Reduction of a Potent CXCR4-Chemokine Antagonist Using Orthogonal Combination of Conformation- and Sequence-Based Libraries. *Angew Chem Int Ed Engl.*; **42**(28):3251-3253.
16. Hirokazu Tamamura, Kenichi Hiramatsu, Makiko Mizumoto, Satoshi Ueda, Shuichi Kusano, Shigemi Terakubo, Miki Akamatsu, Naoki Yamamoto, **John O. Trent**, Zixuan Wang, Stephen C. Peiper, Hideki Nakashima, Akira Otaka, Nobutaka Fujii. Enhancement of the T140-based pharmacophores leads to the development of more potent and bio-stable CXCR4 antagonists. *Org. Biomol. Chem.*, 2003, 3663-3669.
17. Hirokazu Tamamura, Kenichi Hiramatsu, Shuichi Kusano, Shigemi Terakubo, Naoki Yamamoto, **John O. Trent**, Zixuan Wang, Stephen C. Peiper, Hideki Nakashima, Akira Otaka, Nobutaka Fujii. (2003) Synthesis of potent CXCR4 inhibitors possessing low cytotoxicity and improved biostability based on T140 derivatives. *Org. Biomol. Chem.*, 3656-3662.
18. Anne-Marie Leduc, **John O. Trent**, James L. Wittliff, Kelli S. Bramlett, Stephen L. Briggs, Nikolay Y. Chirgadze, Yong Wang, Thomas P. Burris, and **Arno F. Spatola.** (2003) Helix-stabilized cyclic peptides as selective inhibitors of steroid receptor-coactivator interactions. *Proc Natl Acad Sci U S A.* **100**(20):11273-8. Epub 2003 Sep 17.

19. Amit K. Galande, **John O. Trent\*** and **Arno F. Spatola**. (2003) Understanding base-assisted desulfurization using a variety of disulfide-bridged peptides. *Biopolymers*. **71**(5):534-51. Front Cover.
20. Tabb-Massey A, Caffrey JM, Logsden P, Taylor S, **Trent JO**, Ellis SR. (2003) Ribosomal proteins Rps0 and Rps21 of *Saccharomyces cerevisiae* have overlapping functions in the maturation of the 3' end of 18S rRNA. *Nucleic Acids Res*. **31**(23):6798-805.
21. Jankowski K, Kucia M, Wysoczynski M, Reza R, Zhao D, Trzyna E, **Trent J.O.**, Peiper S, Zembala M, Ratajczak J, Houghton P, Janowska-Wieczorek A, Ratajczak MZ. (2003) Both hepatocyte growth factor (HGF) and stromal-derived factor-1 regulate the metastatic behavior of human rhabdomyosarcoma cells, but only HGF enhances their resistance to radiochemotherapy. *Cancer Res.*; **63**(22):7926-35.
22. Cheruzel, L.E., Pometun, M.S., Cecil, M.R., Mashuta, M.S., **Wittebort, R.J.** and Buchanan, R.M. (2003) Structures and solid-state dynamics of one-dimensional water chains stabilized by imidazole channels. *Angewandte Chemie-International Edition*, **42**, 5452-5455.
23. Cleary, D.B., Ehringer, W.D. and **Maurer, M.C.** (2003) Establishing the inhibitory effects of bradykinin on thrombin. *Archives of Biochemistry and Biophysics*, **410**, 96-106.
24. Eklund, M.P., **Farag, A.A.** and El-Melegy, M.T. (2003) Robust correspondence methods for stereo vision. *International Journal of Pattern Recognition and Artificial Intelligence*, **17**, 1059-1079.
25. Estrada, R. and **Yappert, M.C.** (2003) 4-nitronaniline (PNA) as an efficient matrix for the analysis of sphingo- and glycerophospholipids by MALDI-TOF MS. *Biophysical Journal*, **84**, 578A-578A.
26. Hassouna, A.S., **Farag, A.A.**, Hushek, S. and Moriarty, T. (2003), *Medical Image Computing and Computer-Assisted Intervention - Miccai 2003, Pt 1*. Springer-Verlag Berlin, Berlin, Vol. 2878, pp. 680-687.
27. Inoue, O., Suzuki-Inoue, K., **Dean, W.L.**, Frampton, J. and Watson, S.P. (2003) Integrin alpha(2)beta(1) mediates outside-in regulation of platelet spreading on collagen through activation of Src kinases and PLC-gamma 2. *Journal of Cell Biology*, **160**, 769-780.
28. Klein, J.B., Gozal, D., **Pierce, W.M.**, Thongboonkerd, V., Scherzer, J.A., Sachleben, L.R., Guo, S.Z., Cai, J. and Gozal, E. (2003) Proteomic identification of a novel protein regulated in CA1 and CA3 hippocampal regions during intermittent hypoxia. *Respiratory Physiology & Neurobiology*, **136**, 91-103.
29. **Luzzio, F.A.** and Mayorov, A.V. (2003) Palladium(0)-mediated preparation of trans-4-substituted-1-(phthalimido)-2-cyclopentenes. *Synlett*, 532-536.
30. **Luzzio, F.A.**, Mayorov, A.V., Ng, S.S.W., Kruger, E.A. and Figg, W.D. (2003) Thalidomide

metabolites and analogues. 3. Synthesis and antiangiogenic activity of the teratogenic and TNF alpha-modulatory thalidomide analogue 2-(2,6-dioxopiperidine-3-yl)phthalimidine. *Journal of Medicinal Chemistry*, **46**, 3793-3799.

31. Mohamed, R.M. and **Farag, A.A.** (2003), *Knowledge-Based Intelligent Information and Engineering Systems, Pt 1, Proceedings*. Springer-Verlag Berlin, Berlin, Vol. 2773, pp. 346-355.

32. Ng, S.S.W., Gutschow, M., Weiss, M., Hauschildt, S., Teubert, U., Hecker, T.K., **Luzzio, F.A.**, Kruger, E.A., Eger, K. and Figg, W.D. (2003) Antiangiogenic activity of N-substituted and tetrafluorinated thalidomide analogues. *Cancer Research*, **63**, 3189-3194.

33. Oborina, E.M. and **Yappert, M.C.** (2003) Effect of sphingomyelin versus dipalmitoylphosphatidylcholine on the extent of lipid oxidation. *Chemistry and Physics of Lipids*, **123**, 223-232.

34. Powell, D.W., Rane, M.J., Joughin, B.A., Kalmukova, R., Hong, J.H., Tidor, B., **Dean, W.L.**, **Pierce, W.M.**, Klein, J.B., Yaffe, M.B. *et al.* (2003) Proteomic identification of 14-3-3 zeta as a mitogen-activated protein kinase-activated protein kinase 2 substrate: Role in dimer formation and ligand binding. *Molecular and Cellular Biology*, **23**, 5376-5387.

35. Rakitin, A.R. and **Pack, G.R.** (2003) Monte Carlo calculations of ion distributions around micelles. *Colloids and Surfaces A-Physicochemical and Engineering Aspects*, **218**, 265-276.

36. Rujoi, M., Jin, J.L., Borchman, D., Tang, D.X. and **Yappert, M.C.** (2003) Isolation and lipid characterization of cholesterol-enriched fractions in cortical and nuclear human lens fibers. *Investigative Ophthalmology & Visual Science*, **44**, 1634-1642.

37. Schraw, T.D., Lemons, P.P., **Dean, W.L.** and Whiteheart, S.W. (2003) A role for Sec1/Munc18 proteins in platelet exocytosis. *Biochemical Journal*, **374**, 207-217.

38. Singh, S., Powell, D.W., Rane, M.J., Millard, T.H., **Trent, J.O.**, **Pierce, W.M.**, Klein, J.B., Machesky, L.M. and McLeish, K.R. (2003) Identification of the p16-Arc subunit of the Arp 2/3 complex as a substrate of MAPK-activated protein kinase 2 by proteomic analysis. *J. Biol.Chem.* **278**, 36410-36417.

39. Tamiya, S., **Dean, W.L.**, Paterson, C.A. and Delamere, N.A. (2003) Regional distribution of Na,K-ATPase activity in porcine lens epithelium. *Investigative Ophthalmology & Visual Science*, **44**, 4395-4399.

40. Tang, D.X., Borchman, D., Schwarz, A.K., **Yappert, M.C.**, Vrensen, G., van Marle, J. and DuPre, D.B. (2003) Light scattering of human lens vesicles in vitro. *Experimental Eye Research*, **76**, 605-612.

41. Tang, D.X., Borchman, D., **Yappert, M.C.**, Vrensen, G. and Rasi, V. (2003) Influence of age, diabetes, and cataract on calcium, lipid-calcium, and protein-calcium relationships in human lenses. *Investigative Ophthalmology & Visual Science*, **44**, 2059-2066.

42. Thongboonkerd, V., Klein, J.B., **Pierce, W.M.**, Jevans, A.W. and Arthur, J.M. (2003) Sodium loading changes urinary protein excretion: a proteomic analysis. *American Journal of Physiology-Renal Physiology*, **284**, F1155-F1163.
43. Trumbo, T.A. and **Maurer, M.C.** (2003) V34I and V34A substitutions within the factor XIII activation peptide segment (28-4I) affect interactions with the thrombin active site. *Thrombosis and Haemostasis*, **89**, 647-653.
44. Wan, T.C. and **Dean, W.L.** (2003) Decreased PMCA4b expression has no effect on calcium homeostasis in Meg-01 cells. *Platelets*, **14**, 295-303.
45. Wan, T.C., Zabe, M. and **Dean, W.L.** (2003) Plasma membrane Ca<sup>2+</sup>-ATPase isoform 4b is phosphorylated on tyrosine 1176 in activated human platelets. *Thrombosis and Haemostasis*, **89**, 122-131.
46. **Yappert, M.C.**, Rujoi, M., Borchman, D., Vorobyov, I. and Estrada, R. (2003) Glycero-versus sphingo-phospholipids: correlations with human and non-human mammalian lens growth. *Experimental Eye Research*, **76**, 725-734.
47. Zhang, Q.W., Chekmenev, E.Y. and **Wittebort, R.J.** (2003) O-17 quadrupole coupling and chemical shielding tensors in an H-bonded carboxyl group: alpha-oxalic acid. *J. Am. Chem. Soc.* **125**, 9140-9146.

#### 2004 (44)

1. **Chaires, J. B.**, Ren, J., Bamelberg, D., Kumar, A. Pandya, V. Boykin, D. W., and Wilson, W. D. (2004) Structural Selectivity of Aromatic Diamidines. *Journal of Medicinal Chemistry* **47**: 5729-5742.
2. Teh SJ, Deng X, Deng DF, Teh FC, Hung SSO, **Fan TWM**, Liu J, **Higashi RM** (2004) "Chronic effects of dietary selenium on juvenile Sacramento splittail (*Pogonichthys macrolepidotus*)" *Environ. Sci. Tech.* **38**, 6085-6093
3. **Cunningham, A.R.**, S.L. Cunningham, and H.R. Rosenkranz (2004) Structure activity approach to the identification of environmental estrogens: The MCASE approach. *SAR and QSAR in Environmental Research*, **15**(1): 55-67.
4. **Fan, T. W-M., Lane, A.N. & Higashi, R.M.**, (2004) The Promise of Metabolomics in Cancer Molecular Therapeutics. *Current Opin. Molec. Ther.* **6**:584-592 (invited review)
5. **Fan, T.W-M., Higashi, R.M. & Lane, A.N.** (2004) "A Rapid Electrophoretic Profiling Method for Thiol-Rich Peptides and Proteins. " *Phytochem. Anal.* **15**, 175-183

6. **Fan, T. W-M., Lane, A.N.,** Chekmenev, E., **Wittebort, R.H. & Higashi, R. M.** (2004) "Determination of the composition and physical properties of peptides in soil organic matter" *J. Peptide Res.* **63**, 253-264
7. Ramos, A., **Lane, A.N.,** Hollingworth, D. & **Fan, T.W-M.** (2004) NMR determination of the secondary structure of the selenocysteine insertion element. *Nucl. Acids Res.* **32**, 1746-1755.
8. Hirokazu Tamamura, Makiko Mizumoto, Kenichi Hiramatsu, Shuichi Kusano, Shigemi Terakubo, Naoki Yamamoto, **John O. Trent,** Zixuan Wang, Stephen C. Peiper, Hideki Nakashima, Akira Otaka, Nobutaka Fujii. (2004) Topochemical exploration of potent compounds using retro-enantiomer libraries of cyclic pentapeptides, *Org. Biomol. Chem* **2**, 1255-1257.
9. Galliera E, Jala VR, **Trent JO,** Bonecchi R, Signorelli P, Lefkowitz RJ, Mantovani A, Locati M, Haribabu B. (2004) Beta -arrestin dependent constitutive internalization of the human chemokine decoy receptor D6. *J Biol Chem.* **279**, 25590-25597
10. Srivastava S, Spite M, **Trent JO,** West MB, Ahmed Y, Bhatnagar A. (2004) Aldose reductase-catalyzed reduction of aldehyde phospholipids. *J Biol Chem.*; **279**(51):53395-406.
11. Zhilina ZV, Ziemba AJ, **Trent JO,** Reed MW, Gorn V, Zhou Q, Duan W, Hurley L, Ebbinghaus SW. (2004) Synthesis and evaluation of a triplex-forming oligonucleotide-pyrrolobenzodiazepine conjugate. *Bioconjug Chem.*; **15**(6):1182-92.
12. Borchman, D., **Yappert, M.C.** and Afzal, M. (2004) Lens lipids and maximum lifespan. *Experimental Eye Research*, **79**, 761-768.
13. Bozusic, L.D., **Dean, W.L.** and Delamere, N.A. (2004) The influence of protein tyrosine phosphatase-1B on Na,K-ATPase activity in lens. *Journal of Cellular Physiology*, **200**, 370-376.
14. Chekmenev, E.Y., Zhang, Q.W., Waddell, K.W., Mashuta, M.S. and **Wittebort, R.J.** (2004) N-15 chemical shielding in glyceryl tripeptides: Measurement by solid-state NMR and correlation with x-ray structure. *J. American Chemical Society*, **126**, 379-384.
15. **Dean, W.L.** and Whiteheart, S.W. (2004) Plasma membrane Ca<sup>2+</sup>-ATPase (PMCA) translocates to filopodia during platelet activation. *Thrombosis and Haemostasis*, **91**, 325-333.
16. Estrada, R. and **Yappert, M.C.** (2004) Alternative approaches for the detection of various phospholipid classes by matrix-assisted laser desorption/ionization time-of-flight mass spectrometry. *Journal of Mass Spectrometry*, **39**, 412-422.
17. Estrada, R. and **Yappert, M.C.** (2004) Regional phospholipid analysis of porcine lens membranes by matrix-assisted laser desorption/ionization time-of-flight mass spectrometry. *Journal of Mass Spectrometry*, **39**, 1531-1540.
18. **Farag, A.A.,** Hassan, H., Falk, R. and Hushek, S.G. (2004) 3D volume segmentation of MRA data sets using level sets - Image processing and display. *Academic Radiology*, **11**, 419-435.

19. Filppula, S., Yaddanapudi, S., Mercier, R., Xu, W., Pavlopoulos, S., Cai, J., **Pierce, W.M.** and Makriyannis, A. (2004) Purification and mass spectroscopic analysis of human CB2 cannabinoid receptor expressed in the baculovirus system. *Journal of Peptide Research*, **64**, 225-236.
20. Isetti, G. and **Maurer, M.C.** (2004) Probing thrombin's ability to accommodate a V34F substitution within the factor XIII activation peptide segment (28-41). *Journal of Peptide Research*, **63**, 241-252.
21. Isetti, G. and **Maurer, M.C.** (2004) Thrombin activity is unaltered by N-terminal truncation of factor XIII activation peptides. *Biochemistry*, **43**, 4150-4159.
22. Johnson, C.D., Balagurunathan, Y., Tadesse, M.G., Falahatpisheh, M.H., Brun, M., Walker, M.K., Dougherty, E.R. and **Ramos, K.S.** (2004) Unraveling gene-gene interactions regulated by ligands of the aryl hydrocarbon receptor. *Environmental Health Perspectives*, **112**, 403-412.
23. Jones, S.A., Patterson, J.L., Chao, J.T., **Ramos, K.S.** and Wilson, E. (2004) Modulation of cyclin dependent kinase inhibitor proteins and ERK1/2 activity in allylamine-injured vascular smooth muscle cells. *Journal of Cellular Biochemistry*, **91**, 1248-1259.
24. Lamm, G. and **Pack, G.R.** (2004) Induced coalescence of cations through low-temperature Poisson-Boltzmann calculations. *Biophysical Journal*, **87**, 764-767.
25. Lepper, E.R., Ng, S.S.W., Gutschow, M., Weiss, M., Hauschildt, S., Hecker, T.K., **Luzzio, F.A.**, Eger, K. and Figg, W.D. (2004) Comparative molecular field analysis and comparative molecular similarity indices analysis of thalidomide analogues as angiogenesis inhibitors. *Journal of Medicinal Chemistry*, **47**, 2219-2227.
26. **Luzzio, F.A.** and Figg, W.D. (2004) Thalidomide analogues: derivatives of an orphan drug with diverse biological activity. *Expert Opinion on Therapeutic Patents*, **14**, 215-229.
27. Miller, K.K.M., Cai, J., Ripp, S.L., **Pierce, W.M.**, Rushmore, T.H. and Prough, R.A. (2004) Stereo- and regioselectivity account for the diversity of dehydroepiandrosterone (DHEA) metabolites produced by liver microsomal cytochromes P450. *Drug Metabolism and Disposition*, **32**, 305-313.
28. Petrov, A.S., Lamm, G. and **Pack, G.R.** (2004) The triplex-hairpin transition in cytosine-rich DNA. *Biophysical Journal*, **87**, 3954-3973.
29. Petrov, A.S., **Pack, G.R.** and Lamm, G. (2004) Calculations of magnesium-nucleic acid site binding in solution. *Journal of Physical Chemistry B*, **108**, 6072-6081.
30. **Pierce, W.M.** and Cai, J. (2004), *Proteomics in Nephrology*. Karger, Basel, Vol. 141, pp. 40-58.
31. Pometun, M.S., Chekmenev, E.Y. and **Wittebort, R.J.** (2004) Quantitative observation of backbone disorder in native elastin. *Journal of Biological Chemistry*, **279**, 7982-7987.

32. Puebla-Osorio, N., **Ramos, K.S.**, Falahatpisheh, M.H., Smith, R. and Berghman, L.R. (2004) 2,3,7,8-tetrachlorodibenzo-p-dioxin elicits aryl hydrocarbon receptor-mediated apoptosis in the avian DT40 pre-B-cell line through activation of caspases 9 and 3. *Comparative Biochemistry and Physiology C-Toxicology & Pharmacology*, **138**, 461-468.
33. Rakitin, A.R. and **Pack, G.R.** (2004) Molecular dynamics simulations of ionic interactions with dodecyl sulfate micelles. *Journal of Physical Chemistry B*, **108**, 2712-2716.
34. Rujoi, M., Estrada, R. and **Yappert, M.C.** (2004) In situ MALDI-TOF MS regional analysis of neutral phospholipids in lens tissue. *Analytical Chemistry*, **76**, 1657-1663.
35. Sabo, T.M., Farrel, D.H. and **Maurer, M.C.** (2004) Characterizing the binding of fibrinogen gamma' (410-427) to thrombin anion-binding exosite II by solution NMR methods. *Protein Science*, **13**, 204-204.
36. Shen, X., Zheng, S.R., Thongboonkerd, V., Xu, M., **Pierce, W.M.**, Klein, J.B. and Epstein, P.N. (2004) Cardiac mitochondrial damage and biogenesis in a chronic model of type 1 diabetes. *American Journal of Physiology-Endocrinology and Metabolism*, **287**, E896-E905.
37. Stribinskis, V. and **Ramos, K.S.** (2004) Decoding the riddle: The dawn of RNAi for the study of gene-gene and gene-environment interactions. *Environmental Health Perspectives*, **112**, A210-A211.
38. Thongboonkerd, V., Barati, M.T., McLeish, K.R., Benarafa, C., Remold-O'Donnell, E., Zheng, S.R., Rovin, B.H., **Pierce, W.M.**, Epstein, P.N. and Klein, J.B. (2004) Alterations in the renal elastin-elastase system in type 1 diabetic nephropathy identified by proteomic analysis. *Journal of the American Society of Nephrology*, **15**, 650-662.
39. Thongboonkerd, V., Barati, M.T., McLeish, K.R., **Pierce, W.M.**, Epstein, P.N. and Klein, J.B. (2004), *Proteomics in Nephrology*. Karger, Basel, Vol. 141, pp. 142-154.
40. **John O. Trent\***, Zi-xuan Wang, James L. Murray, Wenhai Shao, Hirokazu Tamamura, Nobutaka Fujii, Stephen C. Peiper. (2004) Lipid Bilayer Simulations of CXCR4 with Inverse Agonists and Weak Partial Agonists. *J Biol Chem.*; **278**(47):47136-44.
41. Turner, B.T., Sabo, T.M., Wilding, D. and **Maurer, M.C.** (2004) Mapping of factor XIII solvent accessibility as a function of activation state using chemical modification methods. *Biochemistry*, **43**, 9755-9765.
42. Turner, B.T., Sabo, T.M., Wilding, D. and **Maurer, M.C.** (2004) Mapping the solvent accessibility of Factor XIII as a function of activation state using chemical modification methods. *Protein Science*, **13**, 89-89.
43. Weber, T.J., Negash, S., Smallwood, H.S., **Ramos, K.S.**, Thrall, B.D. and Squier, T.C. (2004) Calmodulin involvement in stress-activated nuclear localization of albumin in JB6 epithelial cells.

*Biochemistry*, **43**, 7443-7450.

44. **Yappert, M.C.** and Borchman, D. (2004) Sphingolipids in human lens membranes: an update on their composition and possible biological implications. *Chemistry and Physics of Lipids*, **129**, 1-20.

2005 (69)

1. **Chaires, J. B.** (2005) Structural Selectivity of Drug-Nucleic Acid Interactions Probed by Competition Dialysis. **In:** *Topics in Current Chemistry: DNA Binders*, Vol. 253, M. J. Waring & J. B. Chaires, editors) Springer-Verlag GMBH & Co., Heidelberg, pp. 33 - 53.

2. **Chaires, J. B.** (2005) Competition Dialysis: An Assay to Measure the Structural Selectivity of Drug-Nucleic Acid Interactions. *Current Medicinal Chemistry-Anticancer Agents* **5**; 339 - 352.

3. Li, J., Correia, J. J., Wang, L., **Trent, J. O.** and **Chaires, J. B.** (2005) Not so crystal clear: the structure of the human telomere G-quadruplex in solution differs from that present in a crystal. *Nucleic Acids Research* **33**; 4649 - 4659 (Featured by Cover Illustration)

4. Mergny, J.-M., Li, J., Lacroix, L., Amrane, S. and **Chaires, J. B.** (2005) Thermal difference spectra: a specific signature for nucleic acid structures. *Nucleic Acids Research* **33**: e138

5. Portugal, J., Cashman, D. J., **Trent, J. O.**, Ferrer-Miralles, N., Przewloka, T., Fokt, I., Priebe, W. and **Chaires, J. B.** (2005) A new bisintercalating anthracycline with picomolar DNA binding affinity. *Journal of Medicinal Chemistry* **48**: 8209-8219.

6. Song, G., Xing, F., Qu, X., **Chaires, J. B.** and Ren, J. (2005) Oxazine 170 induces DNA:RNA:DNA triplex formation. *Journal of Medicinal Chemistry* **48**: 3471 - 3473.

7. Xing, F., Song, G., Ren, J., **Chaires, J. B.** & Qu, X. (2005) Molecular recognition of nucleic acids: Coralyne binds strongly to poly (A). *FEBS Letters* **579**: 5035-5039.

8. **S. Arumugam, R.D. Gray & A. N. Lane** (2005)  $^1\text{H}$ ,  $^{15}\text{N}$  and  $^{13}\text{C}$  assignments of the alkaline proteinase inhibitor APRin from *Pseudomonas aeruginosa*. *J. Biomolec. NMR*. **11**, 265-266

9. Rejmánková, E.J., **Higashi, R.M.**, Grieco, J., Achee, N., Roberts, D. (2005) Volatile substances from larval habitats as species specific oviposition stimulants for *Anopheles* mosquitoes. *J. Medical Entomology*, **42**: 95-103.

10. **Cunningham, A.R.**, S.L. Cunningham, D.M. Consoer, S.T. Moss, and M.H. Karol (2005) Development of an information-intensive structure- activity relationship model and its application to human respiratory chemical sensitizers. *SAR and QSAR in Environmental Research*, **16(3)**: 273-285.

11. Cunningham, S.L., **A.R. Cunningham**, and B.W. Day (2005) CoMFA, HQSAR and molecular docking studies of butitaxel analogues with b-tubulin. *Journal of Molecular Modeling*, **11(1)**: 48-54.
12. Rosenkranz, H.R. and **A.R. Cunningham** (2005) Lack of predictivity of the rat lethality (LD50) test for ecological and human health effects. *Alternatives to Laboratory Animals*, **33**: 9-19.
13. **Lane, A.N. & Sengodagounder Arumugam** (2005). Improving NMR sensitivity in room temperature and cooled probes with dipolar ions. *J. Magn. Reson.* **173**, 339-343.
14. Booth, J., Brown, T., Vadhia, S.J., Lack, O., Cummins, W.J., **Trent, J.O.**, & **Lane A.N.** (2005) Determining the origin of the stabilization of DNA by 5-aminopropynylation of pyrimidines. *Biochemistry*. **44**,4710-4719
15. **Fan, T. W-M.**, Bandura, L.L., **Lane, A.N. & Higashi, R.M.** (2005) Metabolomics-Edited Transcriptomics Analysis of Se Anticancer Action in human lung cancer cells. *Metabolomics* **1**, 325-339
16. Tamamura H, Hiramatsu K, Ueda S, Wang Z, Kusano S, Terakubo S, **Trent JO**, Peiper SC, Yamamoto N, Nakashima H, Otaka A, Fujii N. (2005) Stereoselective synthesis of [L-Arg-L/D-3-(2-naphthyl)alanine]-Type (E)-alkene dipeptide isosteres and its application to the synthesis and biological evaluation of pseudopeptide analogues of the CXCR4 antagonist FC131. *J Med Chem.*; **48(2)**:380-91.
17. **Gray RD, Trent JO.** (2005) Contribution of a Single-Turn alpha-Helix to the Conformational Stability and Activity of the Alkaline Proteinase Inhibitor of *Pseudomonas aeruginosa*. *Biochemistry*. **44(7)**:2469-77.
18. Wei Y, Yen TY, Cai J, **Trent JO, Pierce WM**, Young WW Jr. (2005) Structural features of the lysosomal hydrolase mannose 6-phosphate uncovering enzyme. *Glycoconj J.*; **22(1-2)**:13-9.
19. Tamamura H, Araki T, Ueda S, Wang Z, Oishi S, Esaka A, **Trent JO**, Nakashima H, Yamamoto N, Peiper SC, Otaka A, Fujii N. (2005) Identification of novel low molecular weight CXCR4 antagonists by structural tuning of cyclic tetrapeptide scaffolds. *J Med Chem.* **48(9)**:3280-9.
20. Hu Q, Napier KB, **Trent JO**, Wang Z, Taylor S, Griffin GE, Peiper SC, Shattock RJ. (2005) Restricted variable residues in the C-terminal segment of HIV-1 V3 loop regulate the molecular anatomy of CCR5 utilization. *J Mol Biol.* **22**;350(4):699-712.
21. Klein JB, Barati MT, Wu R, Gozal D, Sachleben LR Jr, Kausar H, **Trent JO**, Gozal E, Rane MJ (2005). Akt-mediated valosin-containing protein 97 phosphorylation regulates its association with ubiquitinated proteins. *J Biol Chem.* **280(36)**:31870-81.
22. Galande AK, Bramlett KS, **Trent JO**, Burriss TP, Wittliff JL, **Spatola AF.** (2005) Potent Inhibitors of LXXLL-Based Protein-Protein Interactions. *Chembiochem.*; **6(11)**:1991-8.

23. Li J, Correia JJ, Wang L, **Trent JO**, **Chaires JB**. (2005) Not so crystal clear: the structure of the human telomere G-quadruplex in solution differs from that present in a crystal. *Nucleic Acids Res.*; **33(14)**:4649-59.
24. Portugal J, Cashman DJ, **Trent JO**, Ferrer-Miralles N, Przewloka T, Fokt I, Priebe W, Chaires JB. (2005) A new bisintercalating anthracycline with picomolar DNA binding affinity. *J Med Chem.* **48(26)**:8209-19.
25. Tamamura H, Esaka A, Ogawa T, Araki T, Ueda S, Wang Z, **Trent JO**, Tsutsumi H, Masuno H, Nakashima H, Yamamoto N, Peiper SC, Otaka A, Fujii N. (2005) Structure-activity relationship studies on CXCR4 antagonists having cyclic pentapeptide scaffolds. *Org Biomol Chem.*; **3(24)**:4392-4.
26. Bozulic, L.D., **Dean, W.L.** and Delamere, N.A. (2005) The influence of SRC-family tyrosine kinases on Na,K-ATPase activity in lens epithelium. *Investigative Ophthalmology & Visual Science*, **46**, 618-622.
27. **Chaires, J.B.** (2005), *DNA Binders and Related Subjects*. Springer-Verlag Berlin, Berlin, Vol. 253, pp. 33-53.
28. Chow, K.M., Ma, Z.L., Cai, J., **Pierce, W.M.** and Hersh, L.B. (2005) Nardilysin facilitates complex formation between mitochondrial malate dehydrogenase and citrate synthase. *Biochimica Et Biophysica Acta-General Subjects*, **1723**, 292-301.
29. El-Baz, A., **Farag, A.A.** and Gimel'farb, G. (2005) Iterative approximation of empirical grey-level distributions for precise segmentation of multimodal images. *Eurasip Journal on Applied Signal Processing*, **2005**, 1969-1983.
30. El-Baz, A., **Farag, A.A.**, Gimel'farb, G. and Hushek, S.G. (2005), *Medical Image Computing and Computer-Assisted Intervention - Miccai 2005, Pt 1*. Springer-Verlag Berlin, Berlin, Vol. 3749, pp. 34-42.
31. El-Baz, A., Yuksel, S.E., Shi, H.J., **Farag, A.A.**, El-Ghar, M.A., Eldiasty, T. and Ghoneim, M.A. (2005), *Medical Image Computing and Computer-Assisted Intervention - Miccai 2005, Pt 2*. Springer-Verlag Berlin, Berlin, Vol. 3750, pp. 821-829.
32. **Farag, A.A.**, El-Baz, A., Gimel'farb, G., Abou El-Ghar, M. and Eldiasty, T. (2005), *Medical Image Computing and Computer-Assisted Intervention - Miccai 2005, Pt 1*. Springer-Verlag Berlin, Berlin, Vol. 3749, pp. 720-728.
33. **Farag, A.A.**, Mohamed, R.M. and El-Baz, A. (2005) A unified framework for MAP estimation in remote sensing image segmentation. *Ieee Transactions on Geoscience and Remote Sensing*, **43**, 1617-1634.
34. Feng, W., Cai, J., **Pierce, W.M.**, Franklin, R.B., Maret, W., Benz, F.W. and Kang, Y.J. (2005)

Metallothionein transfers zinc to mitochondrial aconitase through a direct interaction in mouse hearts. *Biochemical and Biophysical Research Communications*, **332**, 853-858.

35. Grami, V., Marrero, Y., Huang, L., Tang, D.X., **Yappert, M.C.** and Borchman, D. (2005) alpha-crystallin binding in vitro to lipids from clear human lenses. *Experimental Eye Research*, **81**, 138-146.

36. Hassouna, M.S. and **Farag, A.A.** (2005), *Information Processing in Medical Imaging, Proceedings*. Springer-Verlag Berlin, Berlin, Vol. 3565, pp. 529-540.

37. Hassouna, M.S., **Farag, A.A.** and Falk, R. (2005), *Medical Image Computing and Computer-Assisted Intervention - Miccai 2005, Pt 1*. Springer-Verlag Berlin, Berlin, Vol. 3749, pp. 654-661.

38. Hitt, A.L., Phinney, B.S., Reddan, J.R., Estrada, R., Schovan, L.W., Dziedzic, D.C., Borchman, D. and **Yappert, M.C.** (2005) Proteomic analysis of mitochondrial proteins associated with a lipid raft fraction in cultured human lens epithelial cells. *Investigative Ophthalmology & Visual Science*, **46**, 1.

39. Huang, L., Grami, V., Marrero, Y., Tang, D.X., **Yappert, M.C.**, Rasi, V. and Borchman, D. (2005) Human lens phospholipid changes with age and cataract. *Investigative Ophthalmology & Visual Science*, **46**, 1682-1689.

40. Kachouri, R., Stribinskis, S., Zhu, Y.G., **Ramos, K.S.**, Westhof, E. and Li, Y. (2005) A surprisingly large RNase P RNA in *Candida glabrata*. *Rna-a Publication of the Rna Society*, **11**, 1064-1072.

41. Khundmiri, S.J., **Dean, W.L.**, McLeish, K.R. and Lederer, E.D. (2005) Parathyroid hormone-mediated regulation of Na<sup>+</sup>-K<sup>+</sup>-ATPase requires ERK-dependent translocation of protein kinase C alpha. *Journal of Biological Chemistry*, **280**, 8705-8713.

42. **Luzzio, F.A.**, Duveau, D.Y., Lepper, E.R. and Figg, W.D. (2005) Synthesis of racemic cis-5-hydroxy-3-phthalimidoglutaramide. A metabolite of thalidomide isolated from human plasma. *Journal of Organic Chemistry*, **70**, 10117-10120.

43. Miller, K.P. and **Ramos, K.S.** (2005) DNA sequence determinants of nuclear protein binding to the c-Ha-ras antioxidant/electrophile response element in vascular smooth muscle cells: identification of Nrf2 and heat shock protein 90 beta as heterocomplex components. *Cell Stress & Chaperones*, **10**, 114-125.

44. Nanez, A., Alejandro, N.F., Falahatpisheh, M.H., Kerzee, J.K., Roths, J.B. and **Ramos, K.S.** (2005) Disruption of glomerular cell-cell and cell-matrix interactions in hydrocarbon nephropathy. *American Journal of Physiology-Renal Physiology*, **289**, F1291-F1303.

45. Neiger, J.D., Crow, T.Y., Partridge, C.R., Williams, E.S., Chao, J.T., **Ramos, K.S.**, Meininger, G.A. and Wilson, E. (2005) Modulation of alpha 4 integrin mRNA levels is coupled to deficits in vasomotor function in rat arterioles by allylamine. *Life Sciences*, **76**, 1895-1905.

46. Partridge, C.R., Johnson, C.D. and **Ramos, K.S.** (2005) In vitro models to evaluate acute and chronic injury to the heart and vascular systems. *Toxicology in Vitro*, **19**, 631-644.
47. Partridge, C.R., Williams, E.S., Barhoumi, R., Tadesse, M.G., Johnson, C.D., Lu, K.P., Meininger, G.A., Wilson, E. and **Ramos, K.S.** (2005) Novel genomic targets in oxidant-induced vascular injury. *Journal of Molecular and Cellular Cardiology*, **38**, 983-996.
48. Perluigi, M., Poon, H.F., Hensley, K., **Pierce, W.M.**, Klein, J.B., Calabrese, V., De Marco, C. and Butterfield, D.A. (2005) Proteomic analysis of 4-hydroxy-2-nonenal-modified proteins in G93A-SOD1 transgenic mice - A model of familial amyotrophic lateral sclerosis. *Free Radical Biology and Medicine*, **38**, 960-968.
49. Perluigi, M., Poon, H.F., Maragos, W., **Pierce, W.M.**, Klein, J.B., Calabrese, V., Cini, C., De Marco, C. and Butterfield, D.A. (2005) Proteomic analysis of protein expression and oxidative modification in R6/2 transgenic mice. *Molecular & Cellular Proteomics*, **4**, 1849-1861.
50. Petrov, A.S., Funseth-Smotzer, J. and **Pack, G.R.** (2005) Computational study of dimethyl phosphate anion and its complexes with water, magnesium, and calcium. *International Journal of Quantum Chemistry*, **102**, 645-655.
51. Petrov, A.S., Lamm, G. and **Pack, G.R.** (2005) Calculation of the binding free energy for magnesium - RNA interactions. *Biopolymers*, **77**, 137-154.
52. Poon, H.F., Farr, S.A., Banks, W.A., **Pierce, W.M.**, Klein, J.B., Morley, J.E. and Butterfield, D.A. (2005) Proteomic identification of less oxidized brain proteins in aged senescence-accelerated mice following administration of antisense oligonucleotide directed at the A beta region of amyloid precursor protein. *Molecular Brain Research*, **138**, 8-16.
53. Poon, H.F., Hensley, K., Thongboonkerd, V., Merchant, M.L., Lynn, B.C., **Pierce, W.M.**, Klein, J.B., Calabrese, V. and Butterfield, D.A. (2005) Redox proteomics analysis of oxidatively modified proteins in G93A-SOD1 transgenic mice - A model of familial amyotrophic lateral sclerosis. *Free Radical Biology and Medicine*, **39**, 453-462.
54. Portugal, J., Cashman, D.J., **Trent, J.O.**, Ferrer-Miralles, N., Przewloka, T., Fokt, I., Priebe, W. and **Chaires, J.B.** (2005) A new bisintercalating anthracycline with picomolar DNA binding affinity. *Journal of Medicinal Chemistry*, **48**, 8209-8219.
55. Powell, D.W., **Pierce, W.M.** and McLeish, K.R. (2005) Defining mitogen-activated protein kinase pathways with mass spectrometry-based approaches. *Mass Spectrometry Reviews*, **24**, 847-864.
56. Qian, Y.C., Zheng, Y., Abraham, L., **Ramos, K.S.** and Tiffany-Castiglioni, E. (2005) Differential profiles of copper-induced ROS generation in human neuroblastoma and astrocytoma cells. *Molecular Brain Research*, **134**, 323-332.

57. Qian, Y.C., Zheng, Y., **Ramos, K.S.** and Tiffany-Castiglioni, E. (2005) GRP78 compartmentalized redistribution in Pb-treated glia: Role of GRP78 in lead-induced oxidative stress. *Neurotoxicology*, **26**, 267-275.
58. Qian, Y.C., Zheng, Y., **Ramos, K.S.** and Tiffany-Castiglioni, E. (2005) The involvement of copper transporter in lead-induced oxidative stress in astroglia. *Neurochemical Research*, **30**, 429-438.
59. Rakitin, A.R. and **Pack, G.R.** (2005) Necessity of aromatic carboxylate anions to be planar to induce growth of cationic micelles. *Langmuir*, **21**, 837-840.
60. **Ramos, K.S.** (2005) A vision that challenges dogma gives rise to a new era in the environmental health sciences. *Environmental Health Perspectives*, 162-167.
61. **Ramos, K.S.** and Moorthy, B. (2005) Bioactivation of polycyclic aromatic hydrocarbon carcinogens within the vascular wall: Implications for human atherogenesis. *Drug Metabolism Reviews*, **37**, 595-610.
62. **Ramos, K.S.** and Partridge, C.R. (2005) Atherosclerosis and cancer - Flip sides of the neoplastic response in mammalian cells? *Cardiovascular Toxicology*, **5**, 245-255.
63. Rane, M.J., Gozal, D., Butt, W., Gozal, E., **Pierce, W.M.**, Guo, S.Z., Wu, R., Goldbart, A.D., Thongboonkerd, V., McLeish, K.R. *et al.* (2005) gamma-amino butyric acid type B receptors stimulate neutrophil chemotaxis during ischemia-reperfusion. *Journal of Immunology*, **174**, 7242-7249.
64. Shi, H.J., Fahmi, R. and **Farag, A.A.** (2005), *Medical Image Computing and Computer-Assisted Intervention - Miccai 2005, Pt 1*. Springer-Verlag Berlin, Berlin, Vol. 3749, pp. 531-538.
65. Thackaberry, E.A., Jiang, Z., Johnson, C.D., **Ramos, K.S.** and Walker, M.K. (2005) Toxicogenomic profile of 2,3,7,8-tetrachlorodibenzo-p-dioxin in the murine fetal heart: Modulation of cell cycle and extracellular matrix genes. *Toxicological Sciences*, **88**, 231-241.
66. Waddell, K.W., Chekmenev, E.Y. and **Wittebort, R.J.** (2005) Single-crystal studies of peptide prolyl and glycyl N-15 shielding tensors. *Journal of the American Chemical Society*, **127**, 9030-9035.
67. Wei, Y.Q., Yen, T.Y., Cai, J., **Trent, J.O.**, **Pierce, W.M.** and Young, W.W. (2005) Structural features of the lysosomal hydrolase mannose 6-phosphate uncovering enzyme. *Glycoconjugate Journal*, **22**, 13-19.
68. Xu, W., Filppula, S.A., Mercier, R., Yaddanapudi, S., Pavlopoulos, S., Cai, J., **Pierce, W.M.** and Makriyannis, A. (2005) Purification and mass spectroscopic analysis of human CB1 cannabinoid receptor functionally expressed using the baculovirus system. *Journal of Peptide Research*, **66**, 138-150.

69. **Yappert, M.C.**, Estrada, R., Huang, L., Borchman, D., Hitt, A. and Reddan, J.R. (2005) Choline-phospholipid biogenesis in human lens epithelial cells by MALDI-MS. *Investigative Ophthalmology & Visual Science*, **46**, 1.

2006 (56)

1. Shi, X. and **Chaires, J. B.** (2006) Sequence- and structural-selective nucleic acid binding revealed by the melting of mixtures. *Nucleic Acids Research* **34**: e14

2. Grant L, Sun J, Xu HZ, Subramony SH, **Chaires JB**, & Hebert MD (2006) Rational selection of small molecules that increase transcription through the GAA repeats found in Friedreich's ataxia. *FEBS LETT.* **580**: 5399-5405

3. **Chaires, J. B.** (2006) A thermodynamic signature for drug-DNA binding mode. *Archives of Biochemistry and Biophysics*, **453**: 26-31

4. Wheelhouse, R. T., Jennings, S. A., Phillips, V. A., Pletas, D., Murphy, P. M., Garbett, N., **Chaires, J. B.**, and Jenkins, T. C. (2006) Design, synthesis and evaluation of novel biarylpyrimidines - a new class of ligand for unusual nucleic acid structures. *J. Med.Chem.* **49**: 5187-5198

5. Nagarajan, M., Morrell, A., Antony, S., Kohlhagen, G., Agama, K., Pommier, Y., Ragazzon, P. A., Garbett, N. C., **Chaires, J. B.**, Hollingshead, M. and Cushman, M. (2006) Synthesis and biological evaluation of bisindenoisoquinolines as topoisomerase I inhibitors. *J. Med.Chem.* **49**: 5129-5140

6. **Chaires, J. B.** and Shi, X. (2006) Thermal denaturation of drug-DNA complexes: tools and tricks. In: *Sequence-Specific DNA Binding Agents*, M. J. Waring (ed.), Royal Society of Chemistry, London, Chapter 7 (pp. 130 - 151)

7. Telang S, Yalcin A., Clem A. L., Bucala R., **Lane A. N.**, Eaton, J. W., & Chesney J. A. (2006) Ras Transformation Requires Metabolic Control by 6-Phosphofructo-2-Kinase. *Oncogene* **25**: 7225-7234

8. Cao Y, Cherr GN., Cordova-Kreylos AL., **Fan TWM**, Green PG, **Higashi RM**, LaMontagne MG, Scow KM, Vines CA, Yuan J, Holden PA (2006) Relationships between sediment microbial communities and pollutants in two California salt marshes. *Microbial Ecology* **52**, 619-633

9. **Fan, T. W-M.**, Bandura, L.L. **Lane, A.N. & Higashi, R.M.**, (2006) "Integrating Genomics and Metabolomics for Probing Se Anticancer Mechanisms" *Drug Metabolism Reviews* **38**, 1-25

10. Tang, D., **Dean, W.L.**, Borchman, D. and Paterson, C.A. (2006) The influence of membrane lipid structure on plasma membrane Ca<sup>2+</sup>-ATPase activity. *Cell Calcium* **39**, 209-216

11. Tamamura H, Tsutsumi H, Masuno H, Mizokami S, Hiramatsu K, Wang Z, **Trent JO**, Nakashima H, Yamamoto N, Peiper SC, Fujii N. (2006) Development of a linear type of low

molecular weight CXCR4 antagonists based on T140 analogs. *Org Biomol Chem.* **4**(12):2354-7. Epub 2006 May 12.

12. Miller, DM; Laber, DA; Bates, PJ; **Trent JO**, Taft BS & Kloecker GH (2006) Extended phase I study of AS1411 in renal and non-small cell lung cancers *Annals Of Oncology*, **17**: 147-148 Suppl.

13. Boyd-Kimball, D., Poon, H.F., Lynn, B.C., Cai, J., **Pierce, W.M.**, Klein, J.B., Ferguson, J., Link, C.D. and Butterfield, D.A. (2006) Proteomic identification of proteins specifically oxidized in *Caenorhabditis elegans* expressing human A beta(1-42): Implications for Alzheimer's disease. *Neurobiology of Aging*, **27**, 1239-1249.

14. Butterfield, D.A., Gnjec, A., Poon, H.F., Castegna, A., **Pierce, W.M.**, Klein, J.B. and Martins, R.N. (2006) Redox proteomics identification of oxidatively modified brain proteins in inherited Alzheimer's disease: An initial assessment. *Journal of Alzheimers Disease*, **10**, 391-397.

15. Chao, J.T., Martinez-Lemus, L.A., Kaufman, S.J., Meininger, G.A., **Ramos, K.S.** and Wilson, E. (2006) Modulation of alpha(7)-integrin-mediated adhesion and expression by platelet-derived growth factor in vascular smooth muscle cells. *American Journal of Physiology-Cell Physiology*, **290**, C972-C980.

16. Chekmenev, E.Y., Waddell, K.W., Hu, J., Gan, Z.H., **Wittebort, R.J.** and Cross, T.A. (2006) Ion-binding study by O-17 solid-state NMR spectroscopy in the model peptide gly-gly-gly at 19.6 T. *Journal of the American Chemical Society*, **128**, 9849-9855.

17. Chen, D., Hassouna, M.S., **Farag, A.A.** and Falk, R. (2006), *Medical Imaging and Augmented Reality*. Springer-Verlag Berlin, Berlin, Vol. 4091, pp. 372-379.

18. Chen, Y.M., Daosukho, C., Opii, W.O., Turner, D.M., **Pierce, W.M.**, Klein, J.B., Vore, M., Butterfield, D.A. and Clair, D.K.S. (2006) Redox proteomic identification of oxidized cardiac proteins in Adriamycin-treated mice. *Free Radical Biology and Medicine*, **41**, 1470-1477.

19. Cleary, D.B. and **Maurer, M.C.** (2006) Characterizing the specificity of activated factor XIII for glutamine-containing substrate peptides. *Biochimica Et Biophysica Acta-Proteins and Proteomics*, **1764**, 1207-1217.

20. El-Baz, A., Ali, A., **Farag, A.A.** and Gimel'farb, G. (2006), *Medical Image Computing and Computer-Assisted Intervention - Miccai 2006, Pt 2*. Springer-Verlag Berlin, Berlin, Vol. 4191, pp. 734-741.

21. El-Baz, A., Fahmi, R., Yuksel, S., **Farag, A.A.**, Miller, W., El-Ghar, M.A. and Eldiasty, T. (2006), *Medical Image Computing and Computer-Assisted Intervention - Miccai 2006, Pt 2*. Springer-Verlag Berlin, Berlin, Vol. 4191, pp. 446-453.

22. El-Baz, A., **Farag, A.A.**, Gimel'farb, G., El-Char, M.A. and Eldiasty, T. (2006), *Medical Image Computing and Computer-Assisted Intervention - Miccai 2006, Pt 2*. Springer-Verlag Berlin, Berlin, Vol. 4191, pp. 799-806.

23. El-Nahass, M.M., El-Barry, A.M.A., **Farag, A.A.** and El-Soly, S.Y. (2006) Structural and optical properties of ash evaporated AgInTe<sub>2</sub> thin films. *European Physical Journal-Applied Physics*, **35**, 75-83.
24. Estrada, R., Borchman, D., Reddan, J., Hitt, A. and **Yappert, M.C.** (2006) In vitro and in situ tracking of choline-phospholipid biogenesis by MALDI TOF-MS. *Analytical Chemistry*, **78**, 1174-1180.
25. **Farag, A.A.**, Ei-Baz, A., Gimel'farb, G., Falk, R., El-Ghar, M.A., Eldiasty, T. and Elshazly, S. (2006), *Medical Image Computing and Computer-Assisted Intervention - Miccai 2006, Pt 1*. Springer-Verlag Berlin, Berlin, Vol. 4190, pp. 662-670.
26. **Farag, A.A.**, El-Baz, A.S. and Gimel'farb, G. (2006) Precise segmentation of multimodal images. *Ieee Transactions on Image Processing*, **15**, 952-968.
27. Feng, W.K., Benz, F.W., Cai, J., **Pierce, W.M.** and Kang, Y.J. (2006) Metallothionein disulfides are present in metallothionein-overexpressing transgenic mouse heart and increase under conditions of oxidative stress. *Journal of Biological Chemistry*, **281**, 681-687.
28. Girvan, A.C., Teng, Y., Casson, L.K., Thomas, S.D., Juliger, S., Ball, M.W., Klein, J.B., **Pierce, W.M.**, Barve, S.S. and Bates, P.J. (2006) AGRO100 inhibits activation of nuclear factor-kappa B (NF-kappa B) by forming a complex with NF-kappa B essential modulator (NEMO) and nucleolin. *Molecular Cancer Therapeutics*, **5**, 1790-1799.
30. Grant, L., Sun, J., Xu, H.Z., Subramony, S.H., **Chaires, J.B.** and Hebert, M.D. (2006) Rational selection of small molecules that increase transcription through the GAA repeats found in Friedreich's ataxia. *Febs Letters*, **580**, 5399-5405.
31. Hassouna, M.S., **Farag, A.A.** and Falk, R. (2006), *Medical Image Computing and Computer-Assisted Intervention - Miccai 2006, Pt 1*. Springer-Verlag Berlin, Berlin, Vol. 4190, pp. 381-388.
32. Hassouna, M.S., **Farag, A.A.**, Hushek, S. and Moriarty, T. (2006) Cerebrovascular segmentation from TOF using stochastic models. *Medical Image Analysis*, **10**, 2-18.
33. Huang, L., Estrada, R., **Yappert, M.C.** and Borchman, D. (2006) Oxidation-induced changes in human lens epithelial cells - 1. Phospholipids. *Free Radical Biology and Medicine*, **41**, 1425-1432.
34. Huang, L., Tang, D.X., **Yappert, M.C.** and Borchman, D. (2006) Oxidation-induced changes in human lens epithelial cells 2. Mitochondria and the generation of reactive oxygen species. *Free Radical Biology and Medicine*, **41**, 926-936.
35. Koder, R.L., Walsh, J.D., Pometun, M.S., Dutton, P.L., **Wittebort, R.J.** and Miller, A.F. (2006) N-15 solid-state NMR provides a sensitive probe of oxidized flavin reactive sites. *J. Am. Chem. Soc.* **128**, 15200-15208.

36. **Luzzio, F.A.**, Duveau, D.Y. and Figg, W.D. (2006) A chiral pool approach toward the synthesis of thalidomide metabolites. *Heterocycles*, **70**, 321-+.
37. **Luzzio, F.A.**, Ott, J.P. and Duveau, D.Y. (2006) Radical-induced cyclopentannulation of Henry (nitroaldol)-derived intermediates. *Journal of Organic Chemistry*, **71**, 5027-5030.
38. **Maurer, M.C.**, Trumbo, T.A., Isetti, G. and Turner, B.T. (2006) Probing interactions between the coagulants thrombin, Factor XIII, and fibrin(ogen). *Archives of Biochemistry and Biophysics*, **445**, 36-45.
39. Nagarajan, M., Morrell, A., Antony, S., Kohlhagen, G., Agama, K., Pommier, Y., Ragazzon, P.A., Garbett, N.C., **Chaires, J.B.**, Hollingshead, M. *et al.* (2006) Synthesis and biological evaluation of bisindenoisoquinolines as topoisomerase I inhibitors. *Journal of Medicinal Chemistry*, **49**, 5129-5140.
40. Poon, H.F., Shepherd, H.M., Reed, T.T., Calabrese, V., Stella, A.M.G., Pennisi, G., Cai, J., **Pierce, W.M.**, Klein, J.B. and Butterfield, D.A. (2006) Proteomics analysis provides insight into caloric restriction mediated oxidation and expression of brain proteins associated with age-related impaired cellular processes: Mitochondrial dysfunction, glutamate dysregulation and impaired protein synthesis. *Neurobiology of Aging*, **27**, 1020-1034.
41. **Ramos, K.S.** (2006) From genomics to mechanistic insight: A growing presence in medicine and regulatory decision making. *Environmental and Molecular Mutagenesis*, **47**, 408-408.
42. **Ramos, K.S.**, Falahatpisheh, M.H., Nanez, A. and He, Q.A. (2006) Modulation of biological regulatory networks during nephrogenesis. *Drug Metabolism Reviews*, **38**, 677-683.
43. Rempala, G.A., **Ramos, K.S.** and Kalbfleisch, T. (2006) A stochastic model of gene transcription: An application to L1 retrotransposition events. *Journal of Theoretical Biology*, **242**, 101-116.
44. Sabo, T.M., Farrell, D.H. and **Maurer, M.C.** (2006) Conformational analysis of gamma peptide (410-427) interactions with thrombin anion binding exosite II. *Biochemistry*, **45**, 7434-7445.
45. Shi, X.C. and **Chaires, J.B.** (2006) Sequence- and structural-selective nucleic acid binding revealed by the melting of mixtures. *Nucleic Acids Research*, **34**, 7.
46. Stribinskis, V. and **Ramos, K.S.** (2006) Activation of human long interspersed nuclear element 1 retrotransposition by benzo(a)pyrene, an ubiquitous environmental carcinogen. *Cancer Research*, **66**, 2616-2620.
47. Sultana, R., Boyd-Kimball, D., Poon, H.F., Cai, J., **Pierce, W.M.**, Klein, J.B., Markesbery, W.R., Zhou, X.Z., Lu, K.P. and Butterfield, D.A. (2006) Oxidative modification and down-regulation of Pin1 in Alzheimer's disease hippocampus: A redox proteomics analysis. *Neurobiology of Aging*, **27**, 918-925.

48. Sultana, R., Boyd-Kimball, D., Poon, H.F., Cai, J., **Pierce, W.M.**, Klein, J.B., Merchant, M., Markesbery, W.R. and Butterfield, D.A. (2006) Redox proteomics identification of oxidized proteins in Alzheimer's disease hippocampus and cerebellum: An approach to understand pathological and biochemical alterations in AD. *Neurobiology of Aging*, **27**, 1564-1576.
49. Sultana, R., Newman, S.F., Abdul, H.M., Cai, J., **Pierce, W.M.**, Klein, J.B., Merchant, M. and Butterfield, D.A. (2006) Protective effect of D609 against amyloid-beta(1-42)-induced oxidative modification of neuronal proteins: Redox proteomics study. *Journal of Neuroscience Research*, **84**, 409-417.
50. Sultana, R., Poon, H.F., Cai, J., **Pierce, W.M.**, Merchant, M., Klein, J.B., Markesbery, W.R. and Butterfield, D.A. (2006) Identification of nitrated proteins in Alzheimer's disease brain using a redox proteomics approach. *Neurobiology of Disease*, **22**, 76-87.
51. Tang, D.X., **Dean, W.L.**, Borchman, D. and Paterson, C.A. (2006) The influence of membrane lipid structure on plasma membrane Ca<sup>2+</sup>-ATPase activity. *Cell Calcium*, **39**, 209-216.
52. Waddell, K.W., Chekmenev, E.Y. and **Wittebort, R.J.** (2006) Peptide O-17 chemical shielding and electric field gradient tensors. *Journal of Physical Chemistry B*, **110**, 22935-22941.
53. **Yang, T.H.**, Wittmann, C. and Heinzle, E. (2006) Respirometric C-13 flux analysis - Part II: In vivo flux estimation of lysine-producing *Corynebacterium glutamicum*. *Metabolic Engineering*, **8**, 432-446.
54. **Yang, T.H.**, Wittmann, C. and Heinzle, E. (2006) Respirometric C-13 flux analysis, Part 1: Design, construction and validation of a novel multiple reactor system using on-line membrane inlet mass spectrometry. *Metabolic Engineering*, **8**, 417-431.
55. Zhao, H.P., Wu, B., Wu, H., Su, L.Y., Pang, J.L., **Yang, T.H.** and Liu, Y.L. (2006) Protective immunity in rats by intranasal immunization with *Streptococcus mutans* glucan-binding protein D encapsulated into chitosan-coated poly(lactic-co-glycolic acid) microspheres. *Biotechnology Letters*, **28**, 1299-1304.
56. Zhu, Y.L., Stribinskis, V., **Ramos, K.S.** and Li, Y. (2006) Sequence analysis of RNase MRP RNA reveals its origination from eukaryotic RNase P RNA. *Rna-a Publication of the Rna Society*, **12**, 699-706.

#### 2007 (59)

1. Garbett NC, Ragazzon PA, **Chaires JB.** (2007) Circular dichroism to determine binding mode and affinity of ligand-DNA interactions. *Nature Protocols*: 3166-3172
2. Garbett NC, Miller JJ, Jenson AB & **Chaires JB** (2007) Calorimetric analysis of the plasma proteome. *Seminars In Nephrology* **27**: 621-626
3. Ragazzon P, **Chaires JB** (2007) Use of competition dialysis in the discovery of G-quadruplex

selective ligands. *Methods* **43**: 313-323

4. Garbett NC, Miller JJ, Jenson AB, & **J.B. Chaires**. (2007) Interrogation of the plasma proteome with differential scanning calorimetry, *Clinical Chemistry* **53**:2012-2014

5. Dignam JD, Qu XG, Ren JS & **Chaires, JB**. (2007) Daunomycin binding to detergent micelles: A model system for evaluating the hydrophobic contribution to drug-DNA interactions. *J. Phys. Chem. B* **11**: 11576-11584

6. Ragazzon PA, Garbett NC, **Chaires JB** (2007) Competition dialysis: A method for the study of structural selective nucleic acid binding. *METHODS* **42**: 173-182

7. Antonacci C, **Chaires JB**, Sheardy RD (2007) Biophysical characterization of the human telomeric (TTAGGG)(4) repeat in a potassium solution. *Biochemistry* **46**: 4654-4660

8. Ladbury J, **Chaires JB** (2007) Julian Sturtevant Memorial Issue – Editorial *Biophysical Chem.* **126** 3-3

9. Spink CH, Garbett N, **Chaires JB** (2007) Enthalpies of DNA melting in the presence of osmolytes *Biophysical Chem* **126**: 176-185

10. Freyer MW, Buscaglia R, Cashman D Hyslop S, Wilson WD, **Chaires JB**, & Lewis EA (2007) Binding of netropsin to several DNA constructs: Evidence for at least two different 1 : 1 complexes formed from an -AATT-containing ds-DNA construct and a single minor groove binding ligand. *Biophysical Chem* **126**: 186-196

11. Bishop, G. R., Ren, J., Polander, B. C., Jeanfreau, B. D., **Trent, J. O.** and **Chaires, J. B.** (2007) Energetic basis of molecular recognition in a DNA aptamer. *Biophys. Chem*, **126**: 165-175

12. **Lane, A.N** & **Fan, T. W-M.** (2007) Determination of positional isotopomers in metabolites. *Metabolomics* **3**, 79-86 (On line March 15 2007)

13. Sumner, L.W., Amberg, A., Barrett, D., Beger, R., Beale, M.H., Daykin, C. **Fan, T. W-M.**, Fiehn, O., Goodacre, R., Griffin, J.L., Hardy, N., **Higashi, R.M.**, Kopka, J., Lindon, J.C., **Lane, A.N.**, Marriott, P., Nicholls, A.W., Reily, M.D., Viant, M. (2007) Proposed Minimum Reporting Standards for Chemical Analysis. *Metabolomics*. **3**, 211-221

14. Gao S, Tanji KK, Dahlgren RA , Ryu J, Herbel MJ, **Higashi RM** (2007) Chemical status of selenium in evaporation basins for disposal of agricultural drainage. *Chemosphere* **69**, 585-594

15. Rosenkranz, H.S., S.L. Cunningham, R. Mermelstein, and **A.R. Cunningham** (2007) The challenge of testing chemicals for potential carcinogenicity using multiple short term assays. An analysis of a proposed test battery for hair dyes. *Mutation Research/Genetic Toxicology and Environmental Mutagenesis*, 633(1): 55-66.

16. Sansone, S., Nikolau, B., van Ommen, B., Kristal, B., Taylor, C., Robertson, D., Lindon, J., Griffin, J., Sumner, L., van der Werf, M., Hardy, N., Morrison, N., Mendes, P., Kaddurah-Daouk, R., Goodacre, R., **Fan, T.W-M**, and Fiehn, O., (2007) "The Metabolomics Standards Initiative (MSI)", *Nature Biotech.*, **25 (8)**: 844-848
17. Podrabsky JE, Lopez JP, **Fan TWM, Higashi R**, Somero GN. (2007) Extreme anoxia tolerance in embryos of the annual killifish *Austrofundulus limnaeus*: insights from a metabolomics analysis. *J. Exp. Biol.* **210**, 2253-2266
18. Bozulic, L.D., Malik, M.T., Powell, D.W., Nanez, A., Link, A.J., **Ramos, K.S.** and **Dean, W.L.** (2007) Plasma membrane  $\text{Ca}^{2+}$ -ATPase associates with the actin cytoskeleton via CLP36 in human platelets. *Thromb. Haemostas.* **87**, 587-97
19. Brown, C. S. and **Dean, W.L.** (2007) Regulation of plasma membrane  $\text{Ca}^{2+}$ -ATPase in human platelets by calpain. *Platelets* 18, 207-211.
20. Bozulic, L.D., Malik, M.T. and **Dean, W.L.** (2007) Effects of plasma membrane  $\text{Ca}^{2+}$ -ATPase tyrosine phosphorylation on human platelet function. *J. Thromb. Haemos.* **5**, 1041-1046.
21. Kurtoglu, M., Gao, N., Maher, J.C., Lehrman, M.A., Wangpaichitr, M., Savaraj, N., **Lane, A.N.** and Lampidis, T.J. (2007) Under normoxia 2-deoxy-D-Glucose, but not 2-fluoro-deoxy-D-glucose, kills select tumor cells by interfering with N-linked glycosylation. *Molecular Cancer Therapeutics* **6**: 3049-3058.
22. Telang, S., **Lane, A.N.**, Nelson, K.K. **Arumugam, S.** & Chesney, J.A. (2007) The oncoprotein H-RasV12 increases mitochondrial metabolism. *Molec. Cancer.* **6**, 77 doi:10.1186/1476-4598-6-77
23. Napier KB, Wang ZX, Peiper SC, **Trent JO.** (2007) CCR5 interactions with the variable 3 loop of gp120. *J Mol Model* **13**: 29-41
24. Li, JL; **Trent, JO**; Bates, PJ; & **Ng CK** (2007) Factors affecting the labeling yield of F-18-labeled AS1411. *J. Labelled Compounds & Radiopharmaceuticals*, **50** (13-14): 1255-1259
25. Tamamura, H; Tanaka, T; Tsutsumi, H; Ohashi N., Hiramatsu K, Araki T, Ojida A, Hamachi I, Wang Z, Peiper SC, **Trent JO**, Ueda S, Oishi S, Fujii N. (2007) Development of chemokine receptor CXCR4 antagonists using bio-mimetic strategy. *Biopolymers*, **88** (4): 577-577 Sp. Iss.
26. Walraven JM, **Trent JO**, Hein DW (2007) Computational and experimental analyses of mammalian arylamine N-acetyltransferase structure and function. *Drug Metabolism And Disposition* **35** 1001-1007
27. Basu S, Jala VR, Mathis S, Rajagopal ST, Del Prete A, Maturu P, **Trent JO**, Haribabu B (2007) Critical role for polar residues in coupling leukotriene B-4 binding to signal transduction in BLT1. *J. Biol. Chem.* **282** 10005-10017

28. Amunom, I., Stephens, L.J., Tamasi, V., Cai, J., **Pierce, W.M.**, Conklin, D.J., Hatnagar, A., Srivastava, S., Martin, M.V., Guengerich, F.P. *et al.* (2007) Cytochromes P450 catalyze oxidation of alpha,beta-unsaturated aldehydes. *Archives of Biochemistry and Biophysics*, **464**, 187-196.
29. Bendaly, J., Zhao, S., Neale, J.R., Metry, K.J., Doll, M.A., States, J.C., **Pierce, W.M.** and Hein, D.W. (2007) 2-amino-3,8-dimethylimidazo-[4,5-f]quinoxaline-induced DNA adduct formation and mutagenesis in DNA repair-deficient Chinese hamster ovary cells expressing human cytochrome P4501A1 and rapid or slow acetylator N-acetyltransferase 2. *Cancer Epidemiology Biomarkers & Prevention*, **16**, 1503-1509.
30. Borchman, D., Foulks, G.N., **Yappert, M.C.** and Ho, D.V. (2007) Temperature-induced conformational changes in human tear lipids hydrocarbon chains. *Biopolymers*, **87**, 124-133.
31. Borchman, D., Foulks, G.N., **Yappert, M.C.**, Tang, D.X. and Ho, D.V. (2007) Spectroscopic evaluation of human tear lipids. *Chemistry and Physics of Lipids*, **147**, 87-102.
32. Bozulic, L.D., Malik, M.T. and **Dean, W.L.** (2007) Effects of plasma membrane Ca<sup>2+</sup>-ATPase tyrosine phosphorylation on human platelet function. *Journal of Thrombosis and Haemostasis*, **5**, 1041-1046.
33. Bozulic, L.D., Malik, M.T., Powell, D.W., Nanez, A., Link, A.J., **Ramos, K.S.** and **Dean, W.L.** (2007) Plasma membrane Ca<sup>2+</sup>-ATPase associates with CLP36, alpha-actinin and actin in human platelets. *Thrombosis and Haemostasis*, **97**, 587-597.
34. Brown, C.S. and **Dean, W.L.** (2007) Regulation of plasma membrane Ca<sup>2+</sup>-ATPase in human platelets by calpain. *Platelets*, **18**, 207-211.
35. El Munim, H.E.A. and **Farag, A.A.** (2007) Curve/surface representation and evolution using vector level sets with application to the shape-based segmentation problem. *Ieee Transactions on Pattern Analysis and Machine Intelligence*, **29**, 945-958.
36. Falahatpisheh, H., Nanez, A., Montoya-Durango, D., Qian, Y.C., Tiffany-Castiglioni, E. and **Ramos, K.S.** (2007) Activation profiles of HSPA5 during the glomerular mesangial cell stress response to chemical injury. *Cell Stress & Chaperones*, **12**, 209-218.
37. Hassouna, M.S. and **Farag, A.A.** (2007) Multistencils fast marching methods: A highly accurate solution to the eikonal equation on Cartesian domains. *Ieee Transactions on Pattern Analysis and Machine Intelligence*, **29**, 1563-1574.
38. Huang, L., **Yappert, M.C.**, Miller, J.J. and Borchman, D. (2007) Thyroxine ameliorates oxidative stress by inducing lipid compositional changes in human lens epithelial cells. *Investigative Ophthalmology & Visual Science*, **48**, 3698-3704.
39. Isetti, G. and **Maurer, M.C.** (2007) Employing mutants to study thrombin residues responsible for factor XIII activation peptide recognition: A kinetic study. *Biochemistry*, **46**, 2444-2452.

40. Lominadze, D., Tyagi, N., Tyagi, S.C., **Dean, W.L.** and Roberts, A.M. (2007) Fibrinogen induces endothelial cell permeability by increasing FcγRIIIb formation. *FASEB Journal*, **21**, A488-A489.
41. **Luzzio, F.A.**, Wlodarczyk, M.T., Dubeau, D.Y. and Chen, J. (2007) Preparation of beta-phenylnitroethanes having electron-donating aryl substitution. *Tetrahedron Letters*, **48**, 6704-6708.
42. Mello, C.F., Sultana, R., Piroddi, M., Cai, J., **Pierce, W.M.**, Klein, J.B. and Butterfield, D.A. (2007) Acrolein induces selective protein carbonylation in synaptosomes. *Neuroscience*, **147**, 674-679.
43. Metry, K.J., Zhao, S., Neale, J.R., Doll, M.A., States, J.C., McGregor, W.G., **Pierce, W.M.** and Hein, D.W. (2007) 2-amino-1-methyl-6-phenylimidazo [4,5-b] pyridine-induced DNA adducts and genotoxicity in Chinese hamster ovary (CHO) cells expressing human CYP1A2 and rapid or slow acetylator N-acetyltransferase 2. *Molecular Carcinogenesis*, **46**, 553-563.
44. Newman, S.F., Sultana, R., Perluigi, M., Coccia, R., Cai, J., **Pierce, W.M.**, Klein, J.B., Turner, D.M. and Butterfield, D.A. (2007) An increase in S-glutathionylated proteins in the Alzheimer's disease inferior parietal lobule, a proteomics approach. *Journal of Neuroscience Research*, **85**, 1506-1514.
45. Partridge, C.R., Lewis, R.K., Kingery, J.R., **Ramos, K.S.** and Prabhu, S.D. (2007) Loss of nrf2 exacerbates cardiac hypertrophy and dysfunction in response to pressure-overload. *Circulation*, **116**, 102-103.
46. **Ramos, K.S.**, He, Q., Kalbfleisch, T., Montoya-Durango, D.E., Teneng, I., Stribinskis, V. and Brun, M. (2007) Computational and biological inference of gene regulatory networks of the LINE-1 retrotransposon. *Genomics*, **90**, 176-185.
47. **Ramos, K.S.**, Partridge, C.R. and Teneng, L. (2007) Genetic and molecular mechanisms of chemical atherogenesis. *Mutation Research-Fundamental and Molecular Mechanisms of Mutagenesis*, **621**, 18-30.
48. **Ramos, K.S.**, Steffen, M.C., Falahatpisheh, M.H. and Nanez, A. (2007) From genomics to mechanistic insight: A global perspective on molecular deficits induced by environmental agents. *Environmental and Molecular Mutagenesis*, **48**, 395-399.
49. Rempala, G.A., **Ramos, K.S.**, Kalbfleisch, T. and Teneng, I. (2007) Validation of a mathematical model of gene transcription in aggregated cellular systems: Application to L1 retrotransposition. *Journal of Computational Biology*, **14**, 339-349.
50. Sabo, T.M., Brasher, P.B. and **Maurer, M.C.** (2007) Perturbations in factor XIII resulting from activation and inhibition examined by solution based methods and detected by MALDI-TOF MS. *Biochemistry*, **46**, 10089-10101.
51. Stribinskis, V. and **Ramos, K.S.** (2007) Rpm2p, a protein subunit of mitochondrial RNase P,

physically and genetically interacts with cytoplasmic processing bodies. *Nucleic Acids Research*, **35**, 1301-1311.

52. Sultana, R., Boyd-Kimball, D., Cai, J., **Pierce, W.M.**, Klein, J.B., Merchant, M. and Butterfield, D.A. (2007) Proteomics analysis of the Alzheimer's disease hippocampal proteome. *Journal of Alzheimers Disease*, **11**, 153-164.

53. Sultana, R., Reed, T., Perluigi, M., Coccia, R., **Pierce, W.M.** and Butterfield, D.A. (2007) Proteomic identification of nitrated brain proteins in amnesic mild cognitive impairment: a regional study. *Journal of Cellular and Molecular Medicine*, **11**, 839-851.

54. Tadesse, M.G., He, Q., Carroll, R.J. and **Ramos, K.S.** (2007) Comparison of high-density short oligonucleotide microarray platforms. *Current Bioinformatics*, **2**, 203-213.

55. Teneng, I., Stribinskis, V. and **Ramos, K.S.** (2007) Context-specific regulation of LINE-1. *Genes to Cells*, **12**, 1101-1110.

56. Teng, Y., Girvan, A.C., Casson, L.K., **Pierce, W.M.**, Qian, N., Thomas, S.D. and Bates, P.J. (2007) AS1411 alters the localization of a complex containing protein arginine methyltransferase 5 and nucleolin. *Cancer Research*, **67**, 10491-10500.

57. Yuksel, S.E., El-Baz, A., **Frag, A.A.**, El-Ghar, M., Eldiasty, T. and Ghoneim, M.A. (2007) A kidney segmentation framework for Dynamic Contrast Enhanced Magnetic Resonance Imaging. *Journal of Vibration and Control*, **13**, 1505-1516.

58. Zhang, R.D., Kim, T.K., Qiao, Z.H., Cai, J., **Pierce, W.M.** and Song, Z.H. (2007) Biochemical and mass spectrometric characterization of the human CB2 cannabinoid receptor expressed in *Pichia pastoris* - Importance of correct processing of the N-terminus. *Protein Expression and Purification*, **55**, 225-235.

59. Qiu, RQ; **Zhang, X**; Regnier, FE (2007) A method for the identification of glycoproteins from human serum by a combination of lectin affinity chromatography along with anion exchange and Cu-IMAC selection of tryptic peptides *Journal Of Chromatography B-Analytical Technologies In The Biomedical And Life Sciences*, **845 (1)**: 143-150

2008 (43)

1. **Chaires JB** (2008) Calorimetry and thermodynamics in drug design. *Ann, Rev. Biophys.* 135-151

2. **Chaires JB**, Mergny JL (2008) Targeting DNA. *Biochimie* **90**, 973-975

3. **Gray RD, Chaires JB** (2008) Kinetics and mechanism of K<sup>+</sup>- and Na<sup>+</sup>-induced folding of models of human telomeric DNA into G-quadruplex structures. *Nucleic Acids Research* **36**, 4191-4203

4. Garbett NC, **Chaires JB** (2008) A polemic and rough guide. *Biophysical Tools For Biologists:*

5. **Chaires JB.** (2008) Allostery: DNA does it, too, *ACS Chemical Biology* **3**: 207-209
6. Garbett NC, Miller JJ, Jenson AB, & **Chaires JB** (2008) Calorimetry outside the box: A new window into the plasma proteome. *Biophysical Journal* **94**: 1377-1383
7. El-Sagheer, R. Kumar, S. Findlow, J. Werner, **A.N. Lane** and T. Brown. (2008) A Very Stable Cyclic DNA Miniduplex with Just Two Base Pairs. *ChemBioChem* **9**, 50-52. DOI: 10.1002/cbic.200700538
8. Clem, B.F., Telang, S., Clem, A., Yalcin, A., Meier, J., Simmons, A., Rasku, M..A, **Arumugam, S., Dean, W.L.,** Eaton, J. **Lane, A.N., Trent, J.O.** and Chesney. J.A. (2008) "Small Molecule Inhibition of 6-Phosphofructo-2-Kinase Activity Suppresses Glycolytic Flux and Tumor Growth" *Molecular Cancer Therapeutics*. **7**, 110-120
9. **Arumugam, S., Gray, R.D., Lane, A.N.** (2008) Solution structure of the alkaline proteinase inhibitor APRin from *Pseudomonas aeruginosa*: mechanism of inhibition *J. Biomolec. NMR* **40**, 213-217. DOI 10.1007/s10858-008-9218-6
10. Deleeuw, L., Tchernatynskaia, A.V. and **Lane, A.N.** (2008) Thermodynamics and specificity of the Mbp1-DNA Interactions. *Biochemistry* **47**(24); 6378-6385
11. **Lane, A.N., Fan, T. W-M. & Higashi, R.M.** (2008) "Isotopomer-based metabolomic analysis by NMR and mass spectrometry". Methods in Cell Biology, Vol 84. *Biophysical Tools for Biologists, Volume 1*, edited by Drs. John J. Correia and H. William Detrich. Elsevier Science & Technology Books Ch. 18. pp 541-588. ISBN: 9780123725202
12. **Fan, T.W-M. & Lane, A.N.** (2008) Structure-based profiling of Metabolites and Isotopomers by NMR, *Prog. NMR Spectrosc.* **52**, 69-117
13. **Lane, A.N., Fan. T. W-M. and Higashi, R.M.** (2008) "Stable isotope assisted metabolomics in cancer research". *IUBMB Life*. **60**, 124-129
14. McNeely, S.C., Belshoff, A.C., Frazier, B.T., **Fan, T.W-M,** McCabe, Jr, M.J., Pinhas, A., and States, J. C. (2008) "Sensitivity to Sodium Arsenite Depends upon Susceptibility to Arsenite-Induced Mitotic Arrest". *Toxicology & Applied Pharmacology*. **229**, 252-261
15. **Fan, T. W-M.,** Kucia M., Jankowski, K., **Higashi, R.M.,** Rataczjak, M.Z., Rataczjak, J, & **Lane, A.N.** Proliferating Rhabdomyosarcoma cells shows an energy producing anabolic metabolic phenotype compared with Primary Myocytes *Molecular Cancer* **7**:79
16. Thornburg, J.M., Nelson, K.K., **Lane, A.N., Arumugam, S.,** Simmons, A. Eaton, J.W., Telang, S., & Chesney, J. (2008) Targeting Aspartate Aminotransferase in Breast Cancer *Breast Cancer Res.* **10**:R84

17. Lane, A.N. Chaires, J.B., Gray, R.D. & Trent, J.O. (2008) "Stability and kinetics of G-quartet structures" *Nucl. Acids Res.* **36**, 5482-5515.
18. Li Y, Woodall C, Wo JM, Zheng HY, Ng CK, Ray MB, Martin RC (2008) The use of dynamic positron emission tomography imaging for evaluating the carcinogenic progression of intestinal metaplasia to esophageal adenocarcinoma *Cancer Investigation* **26** 278-285
19. Holt, PA; Chaires, JB; Trent, JO (2008) Molecular docking of intercalators and groove-binders to nucleic acids using Autodock and Surflex. *J. Chemical Information And Modeling*, **48** (8): 1602-1615
20. Walraven, JM; Zang, Y; Trent, JO; & Hein DW (2008) Structure/function evaluations of single nucleotide polymorphisms in human N-acetyltransferase 2. *Current Drug Metabolism*, **9** (6): 471-486
21. Mekmaysy, CS; Petraccone, L; Garbett, NC; Ragazzon PA, Gray RD, Trent JO, & Chaires JB (2008) Effect of O-6-methylguanine on the stability of G-quadruplex. *J. Am. Chem. Soc.* **130** (21): 6710+
22. Zarebski, A; Velu, CS; Baktula, AM; Bourdeau, Horman SR., Basu S, Bertolone SJ, Horwitz M, Hildeman DA, Trent JO, Grimes HL. (2008) Mutations in growth factor independent-1 associated with human neutropenia mock murine granulopoiesis through colony stimulating factor-1. *Immunity*, **28** (3): 370-380
23. Walraven, JM; Trent, JO; Hein, DW. (2008) Structure-function analyses of single nucleotide polymorphisms in human N-acetyltransferase 1. *Drug Metabolism Reviews*, **40** (1): 169-184
24. Winner M, Meier J, Zierow S, Rendon BE, Crichlow GV, Riggs R, Bucala R, Leng L, Smith N, Lolis E, Trent JO, Mitchell RA. (2008) A novel, macrophage migration inhibitory factor suicide substrate inhibits motility and growth of lung cancer cells. *Cancer Res.* **15**;68(18):7253-7
25. Datta, S., Turner, D., Singh, R., Ruest, L.B., Pierce, W.M. and Knudsen, T.B. (2008) Fetal alcohol syndrome (FAS) in C57BL/6 mice detected through proteomics screening of the amniotic fluid. *Birth Defects Research Part a-Clinical and Molecular Teratology*, **82**, 177-186.
26. Estrada, R., Stolowich, N. and Yappert, M.C. (2008) Influence of temperature on P-31 NMR chemical shifts of phospholipids and their metabolites I. In chloroform-methanol-water. *Analytical Biochemistry*, **380**, 41-50.
27. Huang, L., Yappert, M.C., Jumblatt, M.M. and Borchman, D. (2008) Hyperoxia and thyroxine treatment and the relationships between reactive oxygen species generation, mitochondrial membrane potential, and cardiolipin in human lens epithelial cell cultures. *Current Eye Research*, **33**, 575-586.
28. Lu, Z., Liu, M., Stribinskis, V., Klinge, C.M., Ramos, K.S., Colburn, N.H. and Li, Y. (2008)

MicroRNA-21 promotes cell transformation by targeting the programmed cell death 4 gene. *Oncogene*, **27**, 4373-4379.

29. **Luzzio, F.A.** and Chen, J. (2008) Efficient preparation and processing of the 4-methoxybenzyl (PMB) group for phenolic protection using ultrasound. *Journal of Organic Chemistry*, **73**, 5621-5624.

30. Opii, W., Joshi, G., Head, E., Milgram, N.W., Muggenburg, B.A., Kleine, J.B., **Pierce, W.M.**, Cotman, C.W. and Butterfield, D.A. (2008) Proteomic identification of brain proteins in the canine model of human aging following a long-term treatment with antioxidants and a program of behavioral enrichment: Relevance to Alzheimer's disease. *Neurobiology of Aging*, **29**, 51-70.

31. Partridge, C.R., He, Q., Brun, M. and **Ramos, K.S.** (2008) Genetic networks of cooperative redox regulation of osteopontin. *Matrix Biology*, **27**, 462-474.

32. **Ramos, K.S.** (2008) Unraveling genetic regulatory networks of mammalian retroelements. *Environmental and Molecular Mutagenesis*, **49**, 516-516.

33. Reed, T., Perluigi, M., Sultana, R., **Pierce, W.M.**, Klein, J.B., Turner, D.M., Coccia, R., Markesbery, W.R. and Butterfield, D.A. (2008) Redox proteomic identification of 4-Hydroxy-2-nonenal-modified brain proteins in amnesic mild cognitive impairment: Insight into the role of lipid peroxidation in the progression and pathogenesis of Alzheimer's disease. *Neurobiology of Disease*, **30**, 107-120.

34. Shi, H.J., **Farag, A.A.**, Fahmi, R. and Chen, D.Q. (2008) Validation of finite element models of liver tissue using Micro-CT. *Ieee Transactions on Biomedical Engineering*, **55**, 978-984.

35. Tyagi, N., Roberts, A.M., **Dean, W.L.**, Tyagi, S.C. and Lominadze, D. (2008) Fibrinogen induces endothelial cell permeability. *Molecular and Cellular Biochemistry*, **307**, 13-22.

36. **Yang, T.H.**, Frick, O. and Heinzle, E. (2008) Hybrid optimization for C-13 metabolic flux analysis using systems parametrized by compactification. *Bmc Systems Biology*, **2**, 17.

37. Yang, X.J., Luo, C., Cai, J., **Pierce, W.M.** and Tezel, G. (2008) Phosphorylation-dependent interaction with 14-3-3 in the regulation of bad trafficking in retinal ganglion cells. *Investigative Ophthalmology & Visual Science*, **49**, 2483-2494.

38. Owen JB Opii WO Ramassamy C **Pierce WM** Butterfield DA (2008) Proteomic analysis of brain protein expression levels in NF-kappa beta p50(-/-) homozygous knockout mice. *Brain Research* **1240** 22-30

39. Neale JR, Smith NB), **Pierce WM**, Hein DW (2008) Methods For Aromatic And Heterocyclic Amine Carcinogen-Dna Adduct Analysis By Liquid Chromatography-Tandem Mass Spectrometry *Polycyclic Aromatic Compounds* **28** 402-417

40. Yu HJ, Ren JS, **Chaires JB**, Qu XG (2008) Hydration of drug-DNA complexes: Greater water

uptake for adriamycin compared to daunomycin. *J. Med. Chem.* **51**, 5909-5911

41. **Cunningham AR** Moss ST, Iype SA, Qian G, Qamar S, Cunningham SL (2008) Structure-Activity Relationship Analysis of Rat Mammary Carcinogens *Chemical Research In Toxicology* **21**, 1970-1982

42. Zhang MW, Ouyang Q, Stephenson A, Kane MD, Salt DE, Prabhakar S, Burgner J, Buck C, **Zhang X.** (2008) Interactive analysis of systems biology molecular expression data *BMC Systems Biology*, **2**: Art. No. 23

43. Petraccone L, **Trent JO, Chaires JB.** (2008) The Tail of the Telomere *J. Am. Chem. Soc.* **130**, 16530-32

2009 ( )

1. Nichola C. Garbett, Chongkham S. Mekmaysy, C. William Helm, A. Bennett Jenson and **Jonathan B. Chaires** (2009) Differential Scanning Calorimetry of Blood Plasma for Clinical Diagnosis and Monitoring. *Exp. Molec. Pathol.* **86**, 186-191 Sp. Issue.

2. **Fan, T. W-M.,** Bird, J.A., Brodie, E.L., & **Lane, A.N.** (2009) <sup>13</sup>C-Isotopomer-based Metabolomics of Microbial Groups Isolated from Two Forest Soils. *Metabolomics* **5**, 108-122

3. **Lane, A.N., Fan, T. WM, Higashi, R.M.,** Tan, J., Bousamra, M. and Miller, D.M (2009) Prospects for clinical cancer metabolomics using stable isotope tracers. *Exp. Molec. Pathol.* **86**, 165-173 Sp. Issue

4. **Lane, A.N. Fan, T. W-M. & Higashi, R.M.** (2009) Metabolic acidosis and the importance of balanced equations. *Metabolomics.* **5**, 163-165

5. Magdalena M. Dailey, Chayanendu Hait, Patrick A. Holt, Jon M. Maguire, Jason B. Meier, M. Clarke Miller, Kelby B. Napier, Luigi Petraccone, **John O. Trent** (2009) Structure-based Drug Design: From Nucleic Acid to Membrane Protein Targets. *Exp. Molec. Pathol.* **86**, 141-150 Sp. Issue.

6. Paula J. Bates, Damian A. Laber, Donald M. Miller, Shelia D. Thomas, **John O. Trent** (2009) Discovery and development of the G-rich oligonucleotide AS1411 as a novel treatment for cancer. *Exp. Molec. Pathol.* **86**, 151-164 Sp. Issue.

7. Hassouna MS, Abdel-Hakim AE, **Farag AA** (2009) PDE-based robust robotic navigation *Image And Vision Computing* **27** Special Issue: Sp. Iss. SI 10-18

8: Targeting the SUMO E2 conjugating enzyme Ubc9 interaction for anti-cancer drug design. Duan X, **Trent JO, Ye H.** (2009) *Anticancer Agents Med Chem.* **9**(1), 51-4.

- 9: Duan X, Yang Y, Chen YH, Arenz J, Rangi GK, Zhao X, **Ye H.** (2009) The architecture of the Smc5/6 complex of *S. cerevisiae* reveals a unique interaction between the Nse5-6 subcomplex and the hinge regions of Smc5 and Smc6. *J Biol Chem.* **284**, 8507-8515
10. **Fan, T. W-M; Lane, A. N.; Higashi . M.; Bousamra II, M.;** Kloecker, G.; Miller, D. M. (2009) Erlotinib-sensitive and resistant lung tumors show radically different metabolic profiles. *Exp. Molec. Pathol.* In Press.
11. Yalcin, A., Clem, B.F., Simmons, S., **Lane, A.N,** Nelson, K.K., Clem, A.L., Brock, E., Siow, D., Wattenberg, B., Telang, S. & Chesney, J. (2009) Nuclear targeting of 6-phosphofructo-2-kinase (PFKFB3) increases proliferation via cyclin-dependent kinases. *J. Biol. Chem.* In press.
12. Holt PA, Ragazzon P, Streckowski L, **Chaires JB, Trent JO .** (2009) Discovery of novel triple helical DNA intercalators by an integrated virtual and actual screening platform. *Nucleic Acids Research* **37**, Pages: 1280-1287
- 13 . **Gray RD,** Li J, **Chaires JB** (2009) Energetics and Kinetics of a Conformational Switch in G-Quadruplex DNA. *J. PHYS. CHEM. B* **113**, 2676-2683
14. Bendaly J, Metry KJ, Doll MA, Jiang G , States JC , Smith NB , Neale JR , Holloman JL , **Pierce WM** , and Hein DW (2009) Role of human CYP1A1 and NAT2 in 2-amino-1-methyl-6-phenylimidazo[4,5-b]pyridine-induced mutagenicity and DNA adducts. *XENOBIOTICA* **39** ,: 399-406
15. Cai J, Bhatnagar A, **Pierce WM** (2009) Protein Modification by Acrolein: Formation and Stability of Cysteine Adducts. *Chemical Research In Toxicology* **22**, 708-716
16. Owen JB, Di Domenico F, Sultana R, Perluigi M, Cini C., **Pierce WM,** Butterfield DA (2009) Proteomics-Determined Differences in the Concanavalin-A-Fractionated Proteome of Hippocampus and Inferior Parietal Lobule in Subjects with Alzheimer's Disease and Mild Cognitive Impairment: Implications for Progression of AD. *J. Proteome Research* **8**, 471-482
17. Reed TT, Owen J, **Pierce WM** et al. (2009) Proteomic Identification of Nitrated Brain Proteins in Traumatic Brain-Injured Rats Treated Postinjury With Gamma-Glutamylcysteine Ethyl Ester: Insights Into the Role of Elevation of Glutathione as a Potential Therapeutic Strategy for Traumatic Brain Injury. *J. Neuroscience Research* **87** 408-417
18. Neale JR, Richter NB, Merten KE, Taylor KG, Singh S, Waite LC, Emery NK, , Smith NB, Cai J, **Pierce WM** (2009) Bone selective effect of an estradiol conjugate with a novel tetracycline-derived bone-targeting agent. *Bioorganic & Medicinal Chemistry Letters* **19** 680-683
19. Lorkiewicz P, **Yappert MC** (2009) 2-(2-Aminoethylamino)-5-nitropyridine as a basic matrix for negative-mode matrix-assisted laser desorption/ionization analysis of phospholipids. *J. Mass Spectrometry* **44** 137-143

20. Borchman D, Foulks GN, **Yappert MC**, Mathews J, Leake K, Bell J (2009) Factors Affecting Evaporation Rates of Tear Film Components Measured In Vitro. *Eye & Contact Lens-Science And Clinical Practice* **35**, 32-37
21. Sen U, Tyagi N, Patibandla PK, **Dean WL**, Tyagi SC, Roberts AM , Lominadze D (2009) Fibrinogen-induced endothelin-1 production from endothelial cells. *American Journal Of Physiology-Cell Physiology* **296**: C840-C847
22. **Luzzio FA**, Wlodarczyk MT (2009) Preparation of benzoheterocyclic carbaldehydes. *TETRAHEDRON LETT.* **50**, 580-583
23. **Ramos KS** (2009) H-RAS Controls Phenotypic Profiles of Vascular Smooth Muscle Cells and the Pathogenesis of Vascular Proliferative Disorders. *Circulation Research* **104** 1139-1141
24. Merk M, Baugh J, Zierow S, Leng L, Pal U, Lee SJ (, Ebert AD, Mizue Y, **Trent JO**, Mitchell R, Nickel W, Kavathas PB, Bernhagen J , Bucala R (2009) The Golgi-Associated Protein p115 Mediates the Secretion of Macrophage Migration Inhibitory Factor. *J. IMMUNOL.* **182** 6896-6906
25. Tamamura H, Tanaka T, Tsutsumi H, Ohashi N, Hiramatsu K, Araki T, Ojida A, Hamachi I, Wang ZX (, Peiper SC, **Trent JO**, Ueda S, Oishi S, Fujii N. (2009) Development of Chemokine Receptor CXCR4 Antagonists Using Bio-mimetic Strategy. *Advances In Experimental Medicine And Biology* **611**, 145-146
26. **Fan, T.WM., Lane, A.N., Higashi, R.M.**, Farag, M.A., Gao, H., **Bousamra, M.** & Miller, D.M. Altered Regulation of Metabolic Pathways in Human Lung Cancer Discerned by <sup>13</sup>C Stable Isotope-Assisted Metabolomics (SIRM). *Molecular Cancer.* **8**:41
27. Herbert, B-S., Huppert, J.L., Johnson, F.B., **Lane, A.N.**, Phan, A.T. (2009) Meeting Report: Second International Meeting on Quadruplex DNA. *Biochimie.* In Press